

TOWER SITE LEASE AGREEMENT

THIS SITE LEASE AGREEMENT (this "Lease") is entered into this _____ day of _____, 2010 ("Execution Date") between City of Frisco, Texas, a Texas Municipal Corporation, Tax ID #75-6000531 ("Landlord") and T-Mobile West Corporation, a Delaware Corporation (Tenant"). The Landlord and Tenant are at times collectively referred to hereinafter as (the "Parties") or individually as (the "Party").

1. Premises. (a) Subject to the following terms and conditions, Landlord leases to Tenant a portion of the real property (the "Property") described in the attached Exhibit A. Tenant's use of the Property shall be limited to that portion of the Property, together with temporary easements for access and utilities, described and depicted in the site plan attached as Exhibit B (collectively referred to hereinafter as the "Premises").

(b) The Premises, located at 3385 Timber Ridge, Frisco, Texas 75034 the County of Denton, the State of Texas, comprise approximately 300 square feet.

2. Term. The initial term of this Lease shall be three (3) years, commencing on the day Tenant notifies Landlord of Tenant's receipt of all applicable Government Approvals as defined below in Paragraph 3 (the "Commencement Date") and terminating at Midnight on the last day of the thirty-sixth (36th) full month following the Commencement Date. This Lease will automatically renew for nine (9) additional three (3) year term(s) (the "Extension Term(s)") upon the same terms and conditions unless either party notifies the other in writing of their intention not to renew this Lease at least ninety (90) days prior to the expiration of the existing Term.

3. Permitted Use. (a) The Premises may be used by Tenant only for permitted uses, which are (i) the transmission and reception of communications signals; (ii) the construction, alteration, maintenance, repair, replacement and relocation of related facilities, antennas and equipment as defined in Paragraph 8; and (iii) activities related to any of the foregoing.

(b) Tenant shall obtain (prior to or after the Commencement Date), at Tenant's expense, all licenses and permits or authorizations required for Tenant's use of the Premises from all applicable government and/or regulatory entities (the "Governmental Approvals").

4. Rent. (a) Upon the Commencement Date, Tenant shall pay Landlord, as rent, the sum of Two Thousand Five hundred Dollars and No Cents (\$2500.00) per month ("Rent"). Rent shall be payable on the first day of each month, in advance, to City of Frisco, at Landlord's address specified below.

(b) If the Commencement Date should be other than the first day of a calendar month, Rent shall be prorated to the end of that calendar month. If this Lease is terminated at a time other than on the last day of a month, Rent shall be

5. Holdover Rent. If Tenant shall remain in possession of the Premises at the expiration of this Lease or any Renewal without a written agreement, such tenancy shall be deemed a month-to-month tenancy under the same terms and conditions of this Lease, except as to Rent, which shall increase by fifteen percent (15%) over the most recent Term's monthly Rent.

6. Extended Term Rent. Upon the extension of this Lease as provided for in Section 2, Rent shall increase by nine percent (9%) over the most recent Term's monthly Rent for each and every Extended Term.

7. Interference. (a) Tenant shall not use the Premises in any way that interferes with the use of the Property by Landlord, or tenants or licensees of Landlord, with rights to the Property prior in time to Tenant's (subject to Tenant's rights under this Lease, including non-interference). In the event Tenant's equipment causes radio frequency interference ("RF Interference"), and after Landlord has notified Tenant of such interference, Tenant will take all steps necessary to correct and eliminate the interference within forty-eight (48) hours. To the extent Tenant is unable to cure the interference within this timeframe, Tenant shall power down the equipment causing the interference except for intermittent testing until such time as the interference is remedied. If Tenant is unable to completely cure the interference within thirty (30) days of receiving notice from the Landlord as set forth above, Tenant shall remove the equipment which caused the interference, or at its option, terminate this Lease.

(b) In the event that Landlord's or any other tenant's (identified under a lease or lease amendment established after the Commencement Date of this Lease) equipment causes RF Interference, and after Tenant has notified Landlord of such interference, Landlord or any other tenant will take all steps necessary to correct and eliminate the interference within forty-eight (48) hours. To the extent Landlord or Landlord's other tenant (as previously identified) is unable to cure the interference within this timeframe, Landlord or any other tenant shall power down the equipment causing the interference except for intermittent testing until such time as the interference is remedied. If Landlord, or any other tenant described above is unable to cure the interference within thirty (30) days of receiving notice from the Tenant as set forth above, Landlord, or the subject tenant, will remove the equipment which caused the interference.

(c) The Parties acknowledge that there will not be an adequate remedy at law for non-compliance with the provisions of this paragraph 7 and therefore, either Party shall have the right to specifically enforce the provisions of this paragraph in a court of competent jurisdiction. **The premises are leased to Tenant AS-IS** and Landlord makes no warranty or representation, express or implied, that the airspace used by Tenant will be free of electronic or other interference or that the Premises are fit for Tenant's Permitted Use.

(d) Landlord shall not use, nor will Landlord permit its employees, tenants, licensees, invitees or agents to use, any portion of the Property in any way that interferes with the operations of Tenant or the rights of Tenant under this Lease,

provided none of the users have any right to the Property upon the Commencement Date of this Lease. Landlord will cause any such interference to cease within forty-eight (48) hours after receipt of notice of interference from Tenant. In the event any such interference to Tenant's operations does not cease within the Cure Period, then the parties acknowledge that Tenant will suffer irreparable injury and, therefore, Tenant shall have the right, in addition to any rights that it may have at law or in equity for Landlord's breach of this Lease, to this Lease immediately.

8. Structural Review: An elevation plan showing the location of any modifications/alterations to the tank structure or surfaces and drawings, stamped by an engineer licensed in the State of Texas, of both the site plan and means of component attachment to tank, must be submitted to and approved by both the Landlord and, at Tenant's expense, the design team of the tank manufacturer. **Landlord requires letter of approval from the tank manufacturer prior to Tenant altering site in any way.**

9. Improvements: Utilities: Access.

(a) Tenant shall have the right, at its expense, to erect and maintain on the Premises the following improvements, personal property and facilities as shown in Exhibit B (collectively the "Communication Facilities"). Landlord shall approve the location of such all improvements including the Communication Facilities, and Tenant shall submit the construction plans and specifications for the Communication Facilities to Landlord for Landlord's approval, which approval shall not be unreasonably withheld or delayed. With the prior written consent of Landlord, which approval shall not be unreasonably withheld or delayed, Tenant shall have the right to replace or upgrade the Communication Facilities at any time during the term of this Lease, provided that no additional antennas, cable runs, brackets, or ground space is required. Tenant shall cause all construction to occur lien-free and in compliance with all applicable laws and ordinances. The Communication Facilities shall remain the exclusive property of Tenant. Tenant shall have the right to remove the Communication Facilities upon the termination of this Lease; provided Tenant returns the Premises to Landlord in the same condition as of the date of this Lease, reasonable wear and tear excepted.

(b) Tenant shall, at Tenant's expense, keep and maintain the Premises and all buildings and improvements now or hereafter located thereon in good condition and repair during the term of this Lease. Upon termination of this Lease, the Premises shall be returned to Landlord in the same condition as of the date of this Lease, reasonable wear and tear excepted.

(c) Tenant shall pay any utility charges due to Tenant's use. Tenant shall not use utilities installed by or for Landlord. Tenant shall have the right to install utilities, at Tenant's expense, and to improve the present utilities on the Premises (including, but not limited to the installation of emergency power generators). Upon termination of this Lease, Tenant shall remove all utilities installed for Tenant.

(d) As partial consideration for rent paid under this Lease, Landlord hereby grants Tenant a temporary easement ("Easement") for ingress, egress and access (including access as described in Paragraph 1) to the Premises. Upon notice, Landlord shall have the right to relocate the Easement to Tenant. Any Easement provided hereunder shall terminate immediately upon the termination of this Lease. Tenant and its "authorized personnel" shall be entitled to twenty-four (24) hour, seven (7) days per week access to the Premises. For purposes hereof, authorized personnel shall mean only authorized employees, engineers, technicians, or properly authorized contractors of Tenant or persons under their direct supervision. All access to the Premises by Tenant shall be subject in each instance to the reasonable security requirements and reasonable rules and regulations from time to time in effect at the Property, of which Landlord shall inform Tenant in advance and in writing.

(e) The Landlord reserves the right, at any time, to perform any type of maintenance and/or repair on the Property; provided however, except in emergency situations, if any maintenance and/or repair work will substantially affect Tenant's permitted uses of the Premises, Landlord will use its best efforts to provide Tenant with at least sixty (60) days prior written notice of the intended repair and/or maintenance work, along with a schedule showing dates and duration of such repair and/or maintenance work. Landlord shall also provide Tenant with the opportunity, at Tenant's cost and expense, to temporarily relocate and continue to operate its antennas, or otherwise to secure the antennas or the Communication Facilities generally, to protect them from damage. Tenant shall be permitted to install temporary facilities necessary to keep its Communication Facilities operational, subject to Landlord's prior written consent, which consent shall not be unreasonably withheld. Further, any maintenance will be conducted by Landlord as diligently and expeditiously as possible. If any temporary facilities are installed as a result of this paragraph, Tenant shall remove said temporary facilities immediately upon Landlord's completion of any maintenance and/or repair work.

(f) In the event that Tenant requires access to Premises and Landlord deems Landlord's personnel's presence is required for said access then Tenant will reimburse Landlord at a rate of \$100/hour per required person. This rate will include $\frac{1}{2}$ hour call-out time for Landlord's personnel to arrive at Premises plus time on site plus $\frac{1}{2}$ hour return time from Premises for Landlord's personnel's return to normal duty area.

(g) At Tenant's sole expense, Tenant is required to install an eight foot (8') wrought iron fence around its Communication Facilities identical to those surrounding the previously existing Communications Facilities of other tenants on the Premises. If Tenant is to be the first on the Premises, then the location and construction/materials of the fence will be determined by the Landlord.

10. Termination. If either party breaches a provision of this Agreement, the non-breaching party shall give the other party written notice of the breach. If the breaching party has not cured the breach within thirty (30) days of such

notice ("Cure Period"), except as otherwise provided herein, this Lease may be terminated by non-breaching party, without any penalty or further liability of the non-breaching party, as follows:

- a. Failing to pay Rent when due.
- b. Failing to pay taxes, assessments, insurance payments or other charges required to be paid by Tenant by this Lease.
- c. Failing to use, maintain and operate the Premises as this Lease requires.
- d. Assigning or subletting the Premises without the prior written consent of Landlord, except as permitted by Section 18 herein.
- e. Committing waste on the Premises.
- f. Maintaining, committing or permitting the maintenance or commission of a nuisance on the Premises.
- g. Denying Landlord access to the Premises.
- h. Using the Premises for any unlawful purpose, whether the purpose is in addition to or in lieu of, the uses specifically permitted by this Lease.
- i. Failure to comply with the terms and conditions of this Lease within the Cure Period.
- j. At the time the Property transfers to a condemning authority, pursuant to a taking of all or a portion of the Property sufficient in Tenant's determination to render the Premises unsuitable for Tenant's use. Landlord and Tenant shall each be entitled to pursue their own separate awards with respect to such taking.
- k. If the Tenant elects to terminate for any other reason than provided in this subsection, the Tenant agrees to pay a fee equal to the balance of the Rent due under Lease for the remainder of the City's fiscal year. The foregoing notwithstanding, in the event that any of Tenant's applications for Governmental Approvals should be finally rejected or any Governmental Approval issued to Tenant is canceled, expires, lapses, or is otherwise withdrawn or terminated by governmental authority so that Tenant in its sole discretion will be unable to use the Premises for its intended purposes, Tenant shall have the right to terminate this Lease without the payment of any such fee.

11. Effect of Termination. No termination of this Lease shall relieve either party from paying any sum or sums then due and payable under this Lease, or from any claims for damages accruing under this Lease. No termination will prevent either party enforcing payment of the sum or sums or claims for damages by any remedy provided by law. The rights and remedies under this Lease are cumulative and non-exclusive, and the parties may pursue any of those rights and remedies or any other remedies provided by Texas law.

12. Waiver. No waiver by either party of a breach of any provision of this Lease may be deemed or alleged to be a continuing waiver or a waiver of any

other breach, whether the same or of any other covenant, condition or restriction of this Lease.

13. Insurance. Tenant, at its own expense, shall provide and maintain in force during the term of this Lease liability insurance (covering bodily injury (including death) and property damage) in the amount of Two Million Dollars (\$2,000,000.00) naming Landlord as additional insured, with one (1) or more insurance companies authorized to transact business in Texas. Tenant will list Landlord as an additional insured and such insurance shall be carried with insurance companies authorized to transact business in Texas. Tenant shall provide Landlord with a certificate of insurance indicating such coverage prior to beginning any activities under this Lease. The certificate shall include assurance that Landlord shall be notified in writing by the insurance company or agent of any cancellation not less than thirty (30) days prior to the effective date of such cancellation. All insurance shall be with companies with a "Best's" Insurance Rating of "A-" or better.

14. HOLD HARMLESS/RELEASE. TENANT SHALL DEFEND, INDEMNIFY AND HOLD HARMLESS LANDLORD AND ITS CITY COUNCIL MEMBERS, OFFICERS, AGENTS, REPRESENTATIVES AND EMPLOYEES FROM ANY AND ALL CLAIMS, DEMANDS, LIABILITIES AND EXPENSES (INCLUDING REASONABLE ATTORNEY'S FEES AND COSTS OF DEFENSE) ARISING FROM THE CONDUCT OR MANAGEMENT OF TENANT'S BUSINESS ON THE PREMISES OR FROM ITS USE OF THE PREMISES; OR FROM ANY ACT OR NEGLIGENCE OF TENANT, ITS AGENTS, CONTRACTORS, EMPLOYEES, SUBTENANTS OR LICENSEES IN OR ABOUT THE PREMISES, EXCEPTING, HOWEVER, SUCH CLAIMS OR DAMAGES AS MAY BE DUE TO OR CAUSED BY THE ACTS OR OMISSIONS OF LANDLORD, OR ITS SERVANTS OR AGENTS. IF ANY ACTION OR PROCEEDING IS BROUGHT AGAINST LANDLORD BY REASON OF ANY SUCH CLAIM, TENANT, UPON NOTICE FROM LANDLORD, WILL DEFEND THE ACTION OR PROCEEDING.

LANDLORD RESERVES THE RIGHT TO PROVIDE A PORTION OR ALL OF ITS OWN DEFENSE; HOWEVER, LANDLORD IS UNDER NO OBLIGATION TO DO SO. ANY SUCH ACTION BY LANDLORD IS NOT TO BE CONSTRUED AS A WAIVER OF TENANT'S OBLIGATION TO DEFEND LANDLORD OR AS A WAIVER OF TENANT'S OBLIGATION TO INDEMNIFY LANDLORD PURSUANT TO THIS AGREEMENT. TENANT SHALL RETAIN DEFENSE COUNSEL WITHIN SEVEN (7) BUSINESS DAYS OF LANDLORD'S WRITTEN NOTICE THAT LANDLORD IS INVOKING ITS RIGHT TO INDEMNIFICATION UNDER THIS AGREEMENT. IF TENANT FAILS TO RETAIN COUNSEL WITHIN SUCH TIME PERIOD, LANDLORD SHALL HAVE THE RIGHT TO RETAIN DEFENSE COUNSEL ON ITS OWN BEHALF, AND TENANT SHALL BE LIABLE FOR ALL COSTS INCURRED BY LANDLORD.

TENANT HEREBY FURTHER RELEASES, WAIVES, DISCHARGES, HOLDS HARMLESS, INDEMNIFIES AND AGREES NOT TO SUE LANDLORD,

ITS CITY COUNCIL MEMBERS, OFFICERS, AGENTS, EMPLOYEES, AND REPRESENTATIVES (HEREINAFTER REFERRED TO AS THE "RELEASEES"), FOR ANY AND ALL RIGHTS AND CLAIMS ARISING FROM ANY AND ALL DAMAGES WHICH MAY BE SUSTAINED BY TENANT, THE COMMUNICATION FACILITIES AND RELATED EQUIPMENT, IN CONNECTION WITH THE USES DESCRIBED HEREIN AND/OR THE PERFORMANCE OF THIS AGREEMENT, EXCEPTING, HOWEVER, SUCH CLAIMS OR DAMAGES AS MAY BE DUE TO OR CAUSED BY THE ACTS OR OMISSIONS OF LANDLORD, OR ITS SERVANTS OR AGENTS. THE RELEASE AND WAIVER SHALL BE BINDING ON TENANT, ITS OFFICERS, DIRECTORS, AGENTS, EMPLOYEES, REPRESENTATIVES, SERVANTS AND ASSIGNS.

15. Notices. All notices, requests, demands and other communications hereunder shall be in writing and shall be deemed given if personally delivered or mailed, certified mail, return receipt requested, or sent by overnight carrier to the following:

If to Landlord, to: City of Frisco
Attn: Assistant to the City Manager
6101 Frisco Square Blvd
Frisco, Texas 75034

With copy to: Abernathy, Roeder, Boyd & Joplin, PC
1700 Redbud, Suite 300
McKinney, TX 75069-1210

If to Tenant, to: T-Mobile USA, Inc.
12920 SE 38th Street
Bellevue, WA 98006
Attn: PCS Lease Administrator

With Copy to: T-Mobile West Corporation
7668 Warren Parkway
Frisco, TX 75034
Attn: Lease Administrator

16. Title and Authority. Landlord covenants and warrants to Tenant that Landlord has full right, power and authority to execute this Lease; it has good and unencumbered title to the Premises free and clear of any liens or mortgages, except those disclosed to Tenant.

17. Environmental Laws. Landlord and Tenant each represent warrant and covenant that it will conduct its activities on the Property in compliance with all applicable Environmental Laws.

Landlord and Tenant shall each be responsible for its own environmental liabilities that relate to or arise from its respective activities on the Property to the extent required by law.

18. Assignment and Subleasing. Tenant may assign or sublease this Lease, in whole or in part, without Landlord's consent, to the Tenant's principal, affiliates, subsidiaries, subsidiaries of its principal or to any entity that acquires all or substantially all of the Tenant's assets in the market defined by the Federal Communications Commission in which the Property is located by reason of a merger, acquisition, or other business reorganization. Tenant may not otherwise assign or sublease this Lease without the prior written approval of Landlord.

Additionally, Tenant may, with the prior written consent of Landlord, mortgage or grant a security interest in this Lease and the Communication Facilities.

19. Successors and Assigns. This Lease shall be binding upon and inure to the benefit of the parties, their respective successors, personal representatives and assigns.

20. Miscellaneous.

a. This Lease constitutes the entire agreement and understanding of the parties, and supersedes all offers, negotiations and other agreements. There are no representations or understandings of any kind that are not set forth herein. Any amendments to this Lease must be in writing and executed by both parties.

b. If either party is represented by a real estate broker in this transaction, that party shall be fully responsible for any fee due such broker and shall hold the other party harmless from any claims for commission by such broker.

c. This Lease shall be construed in accordance with the laws of the State of Texas. Exclusive venue shall be in Collin County, Texas.

d. If any term of this Lease is found to be void or invalid, such invalidity shall not effect the remaining terms of this Lease, which shall continue in full force and effect.

e. This Lease may be executed in duplicate originals.

f. Notwithstanding anything herein to the contrary, neither Landlord nor Tenant shall be liable for the failure to perform its respective duties under this Lease if such failure is caused by a catastrophe, riot, war, governmental order or regulation, fire, accident, act of God, or other similar or different contingency beyond the reasonable control of Landlord or Tenant.

g. The parties agree that Landlord has not waived its sovereign immunity by entering into and performing its obligations under this Lease.

h. Should LANDLORD, at any time during the term of this Lease, sell, lease, transfer or otherwise convey all or any part of the Property to any transferee other than TENANT, then such transfer shall be under and subject to this Lease and all of TENANT's rights hereunder.

[SIGNATURE PAGE TO FOLLOW]

IN WITNESS WHEREOF, said parties have caused this Lease to be duly executed as of the date first above written.

LANDLORD: CITY OF FRISCO

By: _____
Name: George Purefoy
Its: City Manager

TENANT: T-MOBILE WEST CORPORATION

By: Jared Ledet
Name: Jared Ledet
Title: Regional Development Director

CURRENT OWNER INFORMATION

Current Owner of Record: City of Frisco, Texas
Current Site Address: 4th Army Memorial and Stewart Creek Rd
Frisco, TX 75034
County of Research: DENTON

LEGAL DESCRIPTION

BEING A TRACT OF LAND SITUATED IN THE L.B. WHITE SURVEY, ABSTRACT NO. 1394, DENTON COUNTY, TEXAS, AND ALSO BEING ALL OF A TRACT DESCRIBED AS A 117.077 ACRE TRACT BEING MORE FULLY DESCRIBED IN VOLUME 4256, PAGE 1504 IN THE DEED RECORDS OF DENTON COUNTY, TEXAS.

NOTE: Ameristar does not represent that the above legal description, acreage, or square footage calculations are correct. We have taken this information directly from a document recorded at the courthouse.

DISCLAIMER: This report contains information obtained from public records, and being that our company is not the primary provider of such, Ameristar cannot and will not, for the fee charged, be an insurer or guarantor of the accuracy or reliability of said information. Ameristar does not guarantee or warrant the accuracy, timeliness, completeness, currentness, merchantability or fitness for a particular purpose of services provided. Further, Ameristar's sole liability is limited to the cost of this report only. Ameristar is not liable to user for any loss or injury arising out of or caused, in whole or in part, by Ameristar's acts or omissions, whether negligent or otherwise, in procuring, compiling, collecting, interpreting, reporting, communicating, or delivering the services or information contained herein. THIS REPORT IS NOT AN ABSTRACT, OPINION OF TITLE, TITLE COMMITMENT NOR GUARANTEE OR TITLE INSURANCE POLICY.

Property Details for account 619307

Tax Information

The Denton Central Appraisal District is not responsible for the assessment or collection of taxes for this or any other property. If you have a question regarding your tax bill, or would like to pay your tax bill online, please contact the Denton County Tax Assessor / Collector.

General Information

Property ID	619307
Geographic ID	SF0225A-000000A-0000-0001-0000
Legal Description	Southwest Community Park Addn Blk A Lot 1
Situs Address	Lebanon Rd
Property Type	Real
Abstract/Subdivision	SF0225A
	All properties in SF0225A
	View Plat
Owner ID	377742
Owner Name	Frisco, City Of
Percent Ownership	100
Mailing Address	6101 Frisco Square Blvd Frisco, TX 75034-3253
Taxing Jurisdictions	C32 (City Of Frisco) G01 (Denton County) S06 (Frisco Isd)
Exemptions	EX (Exempt)
View Map	Denton CAD GIS

2010 Values (Preliminary)

Improvement Homesite Value	(+)	\$0
Improvement Non-Homesite Value	(+)	\$0
Land Homesite Value	(+)	\$0
Land Non-Homesite Value	(+)	\$234,701
Agricultural Market Value	(+)	\$0
Timber Market Value	(+)	\$0
Total Market Value	(=)	\$234,701
Agricultural Use Reduction	(-)	\$0
Timber Use Reduction	(-)	\$0
Appraised Value	(=)	\$234,701
Homestead Cap <small>What's this?</small>	(-)	\$0
Assessed Value	(=)	\$234,701

Land Segments

Land Type	Acres	Sq. Ft.	Appraised Value
Commercial	1.796	78,234 sq. feet	\$234,701 (Preliminary)

Property History

Year	Improvement(s)	Land	Appraised	Assessed
2010	\$0 (Preliminary)	\$234,701 (Preliminary)	\$234,701 (Preliminary)	\$234,701 (Preliminary)
2009	\$0	\$234,701	\$234,701	\$234,701

Senate Bill 541

In 2005, Texas passed Senate Bill 541, which prohibits the Denton Central Appraisal District -- and every other Appraisal District in the State of Texas -- from making photographs and floorplans of property available online. Exempted from the restriction will be aerial photographs of five or more separately owned buildings.

You can read more about S.B. 541 here.

[[Back to Search](#)]

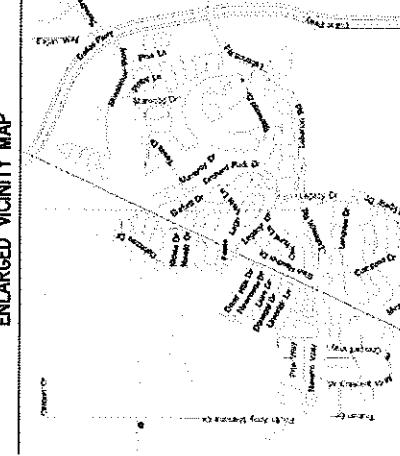
SIZE TYPE: (X) WATER TOWER WITH NEW ANTENAS AND NEW RELATED UNMANAGED COMMUNICATION EQUIPMENT.

DEFINING INFORMATION:

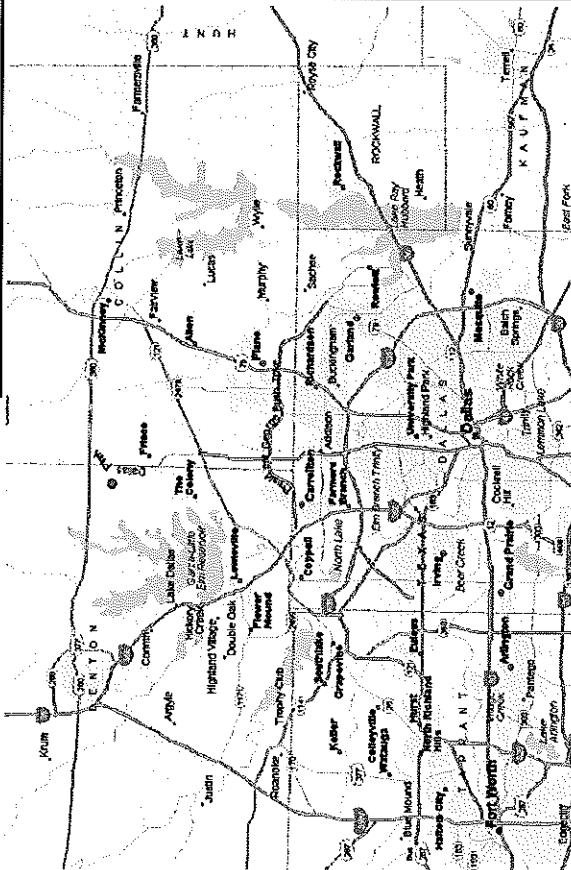
SUMMARY: 4.1 MILES (7 MINUTES)

INSTRUCTION DEPART 7008 WARDEN POINT, FRESNO, TX, TURN ON WARDEN POINT (WESTBOUND RIGHT
NORTH ON LEGACY DR, TURN LEFT (WEST) ON LEONARD TO BEAUFORT (NORTH) ONTO
ARMY MEMORIAL DRIVE, TURN RIGHT, ROAD NO 4 FOURTH ARMY MEMORIAL DR, FRESNO, TX, 75034

ENLARGED VICINITY MAP



VICINITY MAP



APPROVED FOR CONSTRUCTION

PROPERTY OWNER OR REP. _____

IF _____

LAND USE PLANNER _____

NETWORK _____

T-MOBILE _____

CONTRACTOR _____

OPERATIONS _____

SITE NAME
4th ARMY MEMORIAL

SHEET INDEX

SHEET INDEX	
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**SW CORNER OF 3499 BLOCK TIMBER RIDGE
& 6099 BLOCK 4th ARMY DR.
FRESNO, TX 75034**

SITE NUMBER
DA14391

SITE ADDRESS

PROJECT SUMMARY

T-1 TITLE SHEET

N-1 GENERAL NOTES

N-2 GENERAL NOTES

N-3 GENERAL NOTES

N-4 GENERAL NOTES

Z-1 SUBSTANTIALLY CONFORMING SITEPLAN

Z-2 ENLARGED SITE PLAN & ELEVATION

C-2 COAX CABLE DETAILS

C-3 ANTENNA DETAILS & COAX SPECIFICATIONS

C-4 SI2000 NORTEL EQUIPMENT CABINET DETAILS

C-5 EQUIPMENT LAYOUT

C-6 FENCE DETAILS

E-1 POWER/TELCO SITE PLAN POWER ONE LINE

E-2 DIAGRAM & ELECTRICAL NOTES

E-3 POWER/TELCO RISER DIAGRAM

E-4 GROUNDING DIAGRAM & ANTENNAS DETAILS

E-5 UTILITY RACK DETAIL OPTIONS

E-6 DETAILS

S-1 PLATFORM DETAILS & PIER FOUNDATION DETAILS

S-2 CABLE BRIDGE STRUCTURAL NOTES

S-3 RET. DIAGRAM

PROJECT SUMMARY

APPLICANT

T-1 MOBILE
DUE BRIDGE CHAMPS
7000 WOOD PARKWAY
FRESNO, TX 75034
PHONE: (972) 446-3670
FAX: (972) 446-2510

LANDLORD
CITY OF FRESNO - PUBLIC WORKS
1100 RESEARCH ROAD
FRESNO, TEXAS 75034
PHONE: (972) 292-5800

SURVEYOR

INDUSTRIAL SURVEYING PROFESSIONALS
P.O. BOX 63
1020 RIDGE ROAD
ROCKWALL, TEXAS 75087
PHONE: (972) 771-5333
FAX: (972) 771-3770

PRIME CONTRACTOR

ALTAO CONSULTING GROUP, INC.
ATTN: DONALD J. DUNN
1000 S. 10TH ST., SUITE 204
OKLAHOMA CITY, OK 73101
PHONE: (405) 234-4070
FAX: (405) 234-4070
CONTACT: DON DUNN, P.E.

TOWER ENGINEER

BY OTHERS

CONTRACTORS
UTILITIES

POWER
TECO
CONTACT T-1 MOBILE
EXCAVATING MANAGER
DON DUNN
ADDRESS: 1000 S. 10TH ST., SUITE 204
OKLAHOMA CITY, OK 73101
PHONE: (405) 234-4070
FAX: (405) 234-4070
TO BE USED ON ALL SITES

TELCO
CONTACT T-1 MOBILE
ENGINEERING MANAGER
DON DUNN
ADDRESS: 1000 S. 10TH ST., SUITE 204
OKLAHOMA CITY, OK 73101
PHONE: (405) 234-4070
FAX: (405) 234-4070

SHIPPING ADDRESS:
SW CORNER ON 3499
BLOCK TIMBER RIDGE
& 6099 BLOCK 4th ARMY DR.
FRESNO, TX 75034
OF 4th ARMY DR.
BLOCK NUMBER: 4th ARMY DR.
SHEET NUMBER: T-1
SHEET TITLE: TITLE SHEET
THESE DRAWINGS ARE SCALED FOR 24"X36" SHEET

Mobile
E

OF FICE: (972) 446-3510
DUKE BRIDGES PARTNERS
1633 MARBLES CIRCUIT
FRESNO, TX 75034
PROJECT NO.: DA14391
DRAWN BY: CG
CHECKED BY: JC
APPROVED BY: CG
T-1

Mobile

PART 3 EXCAVATION (CONTINUED)

- 3.3 INSTALLATION
- A. THE SITE AND TURF/GRASS AREAS SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FIRMING FOUNDATIONS, GRAVEL, STONE, GRAVEL AND ASBESTOS ROAD AS REQUIRED WITH EVEN DISTRIBUTION. THE EXCAVATIONS ARE TO BE CATERAGED FROM THE RESULTING GRADE.
- B. CLEAR DITCHES SPOTS, IF ANY, FROM 100 FEET AND DEEP, NOT SPREAD BEYOND THE LIMITS OF THE OWNERS LINE OF PROPERTY UNLESS AUTHORIZED BY PROJECT MANAGER IN WRITING.
- C. THE ACCESS ROAD SHALL BE BROUGHT TO DUSE COURSE ELEVATION prior to Division 2 - CONCRETE FOR SPECIFICATION OF CONCRETE AND GROUT.
- D. AVOID CREATING DEPRESSIONS WHERE WATER MAY POND.
- E. THE CONTRACT INCLUDES ALL NECESSARY GASHING, BANJOING, TATCHING AND UNLESS OTHERWISE INDICATED, ROTATING THE END POINTS OF CONCRETE COVERS, CONCRETE PILES OR CONCRETE LUMPS FOR THE STABILIZATION OF THE STATION POINT OF INTERSECTION OF THE PUBLIC THOROUGHFARE, ARE INCLUDED IN SCOPE UNLESS OTHERWISE NOTED.
- F. WHEN IMPROVING AN EXISTING ACROSS ROAD, GRADE THE DITCH ROAD TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE PLACING FILL OR STONE.
- G. PLACE TILL OR STONE IN SIX INCH MASONRY LENTS AND COMPACT BEFORE PLACING NEXT LENT.
- H. THE TURF GRASS, INCLUDING TOP SURFACE COURSES, SHALL BE TIDED A DAY OR TWO PRIOR TO THE COMMENCEMENT OF THE EXCAVATION AND DITCHES SHOULD BE MAINTAINED.
- I. REBRAAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SPOTS GREATER THAN 1' X 1'.
- J. REBRAAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.
- K. REBRAAP DITCH FOR SIX FEET IN ALL DIRECTIONS AT CULVERT OPENINGS.
- L. SEED, TERRIZZER AND STRAW COVER SHALL BE APPLIED TO ALL DITCHES, SPOTS, DRAINS AND SWALES. DRAINS, SWALES, NOT OTHERWISE REFERRED.
- M. UNDER NO CIRCUMSTANCES WILL DITCHES SWALS OR GULLERS BE PLACED SO THEY DIRECT WATER TOWARDS OR INTO THE DRIVEWAY, DRIVEWAY, WALKWAY, OR ETC. IF CONDITIONS WHICH CALL FOR CULVERTS OCCUR, THE OWNER SHALL BE ADVISED IMMEDIATELY, IN WRITING.
- N. IF DITCHES ARE MADE WITH SIDE DRAINS OR LESS THAN THREE FEET IN LENGTH, THE DRAINS SHALL BE POSITIONED SO THAT THE DRAINS AS WELL AS THE DITCHES WILL DRIP OUTSIDE THE CULVERT ENTRANCE.
- O. DRAINS AND TERRIZZERS SHALL BE APPLIED TO SEPARATE CONDITIONS WHICH WILL EXCAVATE GROUNDS, PADS, ETC. IF POSSIBLE BY SPREADING DRAINS AND TERRIZZERS TO ENSURE SEPARATE DRAINAGE.
- P. SOIL SHALL BE SOLD IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE GROUND WATER EXPERT.
- Q. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE GROWTH OF SEEDING AND LANDSCAPE AREAS BY WATERING UP TO THREE FEET IN LENGTH. THE CONTRACTORS RESPONSIBILITY TO REPAIR DRAINS UNTIL COMPLETE DRAINS ARE REPORTED.
- 3.4 PROTECT SEEDED AREAS FROM EROSION
- A. CONSTRUCTION SHALL NOT HARM THE GROUNDS IN ACCORDANCE WITH THE STATE, CITY AND LOCAL REQUIREMENTS UNDER SUB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTORS EXPENSE.
- 3.5 PROTECTION
- A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM COARSE DENSITY OF 1"-2" INCHES, STONE AND MULCH, IN ACCORDANCE WITH THE STATE, CITY AND LOCAL REQUIREMENTS.
- B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED WITH FABRIC, PROTECTED WIRE AND TERRIZZED TWO FEET IN LENGTH. THE TOP OF THE TRUNK SHALL BE WRAPPED WITH FABRIC TWO FEET IN LENGTH. THE BOTTOM OF THE TRUNK SHALL BE WRAPPED WITH FABRIC TWO FEET IN LENGTH.
- C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOVERS AND SOIL DROUGHT.
- 3.6 SCHEDULE
- A. TOP AND BRACE PAILS SHALL BE 1 1/2" DIAMETER, STEEL, HAVE WELDED CORNERS.
- B. SCHEDULE 7 AD MECHANICAL-STRAFE PIPE TRENCHES SHALL

PART 3 - SPECIAL CONSTRUCTION

13100 TOWER & ANTENNA INSTALLATION

PART 1 - GENERAL

1.1 WORK INCLUDED

- A. IF REQUIRED, ERECT FURNISHED TOWER.
B. GROUND TOWER TEMPORARILY DURING ERECTION COMMANDERS SHALL INCLUDE BASES AND ANALYSIS.
C. IF REQUIRED, INSTALL THREE (3) SIDE ARMS CONSISTING OF THREE (3) E-3 AS INDICATED ON DRAWINGS AND CIRCUIT WITH OTHER REPLICATIVE.

- D. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND OWNER SPECIFICATIONS.
E. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
F. INSTALL FURNISHED GALVANIZED STEEL WAVEGUIDE LADDER.

- G. INSTALL WAVEGUIDE BRIDGE AS INDICATED ON DRAWING.

- H. SUPPLY AND INSTALL ONE INSULATED GROUND BAR AT EQUIPMENT CARD.

- I. EACH INSTALL GROUNDING STRAP KITS WITH LONG BARREL COMPRESSION LACES. ADDITIONAL GROUND STRAPS TO BE CONNECTED TO INSULATED GROUND BAR.

- J. ASSIST OWNER TECHNICIANS IN PERFORMING SWEEP TEST OF INSTALLED CXAX.

- K. AND PROVIDE PERIODIC FOUNDATIONS SHALL BE DRILLED AND FORGED ON THE SAME DAY.

2.2 RELATED WORK

2.3 REQUIREMENTS OF REGULATOR AGENCIES

- A. PURCHASED LISTED EQUIPMENT WHERE SUCH USED IS AVAILABLE, INSTALL IN CONFORMANCE WITH STANDARDS WHERE APPLICABLE.

- B. INSTALL NATIONAL ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH STANDARDS PROVIDED ON THIS CONTRACT, SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS INCLUDES BUT IS NOT LIMITED TO:

1. ELECTRONIC INDUSTRIES ASSOCIATION (EIA) - STANDARD STANDARDS FOR STEEL ANTENNA TOWERS, AND ANTENNA SUPPORTING STRUCTURES.

2. FEDERAL AVIATION ADMINISTRATION (FAA) - CIRCULAR AC TO/7-46D-1H, DESTINATION MARKING AND LIGHTING.

3. FEDERAL COMMUNICATIONS COMMISSION (FCC) - RULES AND REGULATIONS FORM 73.1, CONSTRUCTION MARKING AND LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES AND FORM 73.5, HIGH INTENSITY DISSEMINATION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.

4. AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS (AISC) AS/NZS 3566.2 - 2005.

5. NEC - NATIONAL ELECTRICAL CODE - ON TOWER LIGHTING KITS.

6. UL - UNDERWIRENS LABORATORIES APPROVED ELECTRICAL PRODUCTS.

7. IN ALL CASES, PART 70 OR THE FAA RULES AND REGULATIONS SHALL BE FOLLOWED.

8. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS OF CONSTRUCTION, MAINTENANCE, OPERATION, REPAIR AND MAINTENANCE OF THE EQUIPMENT FOR A PERIOD OF ONE YEAR FROM DATE OF COMPLETION.

9. 1990 LIFE SAFETY CODE NFPA - 101.

SPECIMEN NUMBER
GENERAL NOTES

N-2

DIVISION 16 - GENERAL ELECTRIC

25. ALL MATERIALS SHALL BE UL LISTED.
26. CONDUIT
 - A. ROD CONDUIT (INSTALLED IN CONCRETE PLATES IN CONDUIT) WHICH THE CABLES ARE ROUTED ON BUILDING EXTERIOR SHALL BE UL LABELED GALVANIZED ZINC COATED WITH VINYL WRAP IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED.
 - B. ELECTRICAL METAL CONDUIT (S) SHALL HAVE UL LABELED SHALL BE USED ONLY FOR INTERIOR RUNS.
 - C. PLASTIC METAL CONDUIT SHALL HAVE UL LISTED. FITTINGS SHALL BE UL LISTED. JACKET SHALL BE JACKETED. TIGHT FLEXIBLE CONDUIT (S) SHALL BE JACKETED. JACKET SHALL BE 1/2 LAPPED. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
 - D. CONDUIT RUNS SHALL BE SURFACE MOUNTED IN CONCRETE OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING OR FLOOR CONDUIT. CONDUIT ROUTING OF ALL DROPPED CONDUIT MUST BE IN CONFORMITY WITH THE STANDARDS FOR THE DROPPED CONDUIT. DROPPED CONDUIT MUST BE HORIZONTAL CONDUITS SHALL BE SUPPORTED BY A MINIMUM OF 1/4" A.F.C. BX OR ROPE CABLE IS PERMITTED.
 - E. PARALLEL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40. (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 30' BELOW GRADE. PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 30' BELOW GRADE (RES. ORL. S/1-E-2).
 - F. ABOVE GROUND CONDUIT SHALL BE PVC SCHEDULE 80 (UNLESS NOTED OTHERWISE).
 - G. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH FABRICATION ENGRAVED PLASTIC LABELS.
 - H. COORDINATE THE ELECTRICAL SERVICE WITH THE UTILITY COMPANY AND PROVIDE DAILY UPDATES TO THE UTILITY COMPANY FOR UTILIZATION OF THE UTILITY COMPANY'S FACILITIES. PAY ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
 - I. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.
 - J. CONTRACTOR SHALL CARRY OUT THEIR WORK IN ACCORDANCE WITH ALL GOVERNING STATE AND LOCAL CODES AND PERMITS AND PAY ALL FEES REQUIRED.
 - K. CONTRACTOR SHALL SECURE ALL NECESSARY BUILDING PERMITS AND PAY ALL REQUIRED FEES.
 - L. CONTRACTOR SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR AFTER THE DATE OF SIGN OFF ACCEPTANCE BY OWNER ANY WORK, MATERIAL, OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD. NOTIFICATION OF THE CONTRACTOR.
 - M. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO THE OWNER AT JOB COMPLETION.
 - N. USE "T-TAP" CONNECTIONS ON ALL WIRE, CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURES, PULLS, REPAIRS, AND PAINT AND AERIALS THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
 - O. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMA OF 1000A. ALC.
 - P. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES.
 - Q. PATCH, REPAIRS, AND PAINT AND AERIALS THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
 - R. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES.
 - S. WIRE, AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE.
 - T. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.
 - U. METER, SOCKET, AMPERE, VOLTAGE, NUMBER OF PHASES, "SQUARE D COMPANY", OR APPROVED EQUAL.

THIS POINT IS THE MAIN GROUNDING POINT OF THE SYSTEM.

THIS WOULD BE CONNECTING THE A/C SERVICE GROUND TO THE COMMERCIAL POWER FEED LINE. THIS CABLE IS TO BE LOCATED IN A CONDUIT WHICH IS EARTH GROUNDED. NO PARTS OF CABLES ARE TO BE EXPOSED TO BARE METAL AND ISOLATED WITH INSULATION.

2.3 LIGHTING CONSIDERATIONS.

LIGHTNING DAMAGE OCCURS FROM EITHER THE BUILDING, USUALLY AN ACTUAL DIRECT STRIKE TO THE BUILDING, USUALLY THROUGH THE TOWER AND/OR ANTENNAS, CABLES TO OTHER NEARBY OBJECTS INDUCE HIGH ENERGY INTO POWER OR TELEPHONE CABLES ENTERING THE BUILDING. THIS TYPE OF INCIDENT HISTORICALLY CAUSES MOST OF THE DAMAGE TO THE BUILDING AND ITS CONVENTION.

3.0 STATION GROUNDING SYSTEM

3.1 MATERIALS:

- A. #6 AWG, BARE, SOLID THINNED COPPER WIRE, FOR ALL CABLES AND CONDUCTORS. TOWER GROUND BAR SHALL BE 1/2" I.D. STANDARD GREEN VINYL JACKETED STRANDED COPPER WIRE. THE JACKET SHALL BE GREEN JACKETED STRANDED #2 TINNED WIRE BURNT CONNECTED TO THE BUSS BAR AND CONNECTED TO THE GROUND RING ON A GROUND ROD.
- B. #6 AWG, INSULATED STRANDED COPPER CABLES ON TOWER IMPROVEMENT SITES.
- C. 5/8" X 6'-0" GROUND RODS OF SOLID COPPER, STAINLESS STEEL, OR COPPER CLAD IRON STRENGTH STEEL.
- D. ABOVE GROUND CONNECTIONS SHALL BE BURNING HYBRID, GARDEN, OR OTHER APPROVED DIATHERMIC WELDING STATION FOR BONDING AS SPECIFIED.
- E. EXT. RE-ADVANCED GROUNDED ELECTRODE (ACES), ALL CONductor GROUND RODS SHALL BE UL APPROVED.
- F. SOLID COPPER PLATES OF MINIMUM 3/8X1/4" SIZE AS SPECIFIED.
- G. NICKEL OR APPROVED ETched CONDUCTIVE METAL MATERIAL SHALL BE USED IN ALL MECHANICAL CONNECTIONS.
- H. #6 AWG STRANDED INSULATED (GREEN) FOR ALL INTERNAL EQUIPMENT GROUNDING.

- I. MECHANICAL FASTENERS (i.e. DOUBLE LIPS, SPOT BOLTS, PARALLEL CONDUCTORS) SHALL BE DRILLED, TRACED, SCREWED, OR STAINLESS STEEL AND HAVE NO SLACK BETWEEN CONDUCTOR AND CONNECTION.
- J. TWO BOLTS, NUTS, AND SPACERS USED TO EASILY CONDUCTORS AND CONNECTIONS. NO SLACK BETWEEN CONDUCTOR AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
- K. CONTRACTOR TO PROVIDE AND PAY FOR ALL MATERIALS, CONNECTIONS, AND EXPENSES FOR THE CONSTRUCTION AND OPERATION OF THE SYSTEM. CONTRACTOR TO PROVIDE AND PAY FOR ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.
- L. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUND TESTS FOR THE EQUIPMENT AND CONDUITS. CONTRACTOR TO PROVIDE AND PAY FOR ALL REPAIRS OF EQUIPMENT, CONDUITS, AND CONNECTIONS.
- M. CONTRACTOR TO PROVIDE AND PAY FOR ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.

GROUNDING STANDARDS

1.0 DEFINITIONS

- A. AMERICAN GROUND BAR - AGC: WIRE GAGE, GAO, WELDING AN EXOTHERMIC CAD WELDING AN EXOTHERMIC WELDING PROCESS WHICH CREATS POSITIVE CONTACT OF POSITIVE CONTACT OF GROUNDING CONDUCTORS.
- B. DATA ELECTRICAL METAL TUBING (LIGHT GAUGE METAL CONDUIT)
- C. PVC PIPE, YARD, CABLE, CONDUIT
- D. RADIO FREQUENCY INTERFERENCE
- E. NEW LETTER TYPE DESIGNATION FOR CONDUCTOR INSULATION THAT IS A INSULATED AND HEAT RESISTANT PLASTIC WITH A MAXIMUM OPERATING TEMPERATURE OF 75 DEGREES F.
- F. T/1 TENANT IMPROVEMENT

2.0 BACKGROUND

- G. AREA OF PROTECTION, WHICH IS AROUND THE GROUNDING SYSTEM, WHICH IS THE BASE PLATE OF THE TOWER. EACH AREA OF PROTECTION IS THE BASE PLATE OF THE TOWER. EACH AREA OF PROTECTION IS THE BASE PLATE OF THE TOWER.
- H. LIGHTNING PROTECTION - TO MANTAIN ALL EQUIPMENT AT THE SAME POTENTIAL DURING A LIGHTNING IMPULSE.
- I. FOR NOISE INDUCTION CONTROL - TO ESTABLISH THE LOWEST POSSIBLE IMPEDIMENT AMONG ALL EQUIPMENT.
- J. ELECTROSTATIC CONTROL - TO REDUCE ELECTROSTATIC DISCHARGE PROBLEMS.
- K. PERSONNEL SAFETY - TO MANTAIN A MINIMUM VOLTAGE DIFFERENCE BETWEEN ANY TWO METALLIC OBJECTS WHICH PERSONNEL MIGHT CONTACT SIMULTANEOUSLY.

- L. IN THIS GROUNDED SYSTEM, THE A/C SERVICE GROUND SHALL BE KEPT ISOLATED FROM THE EQUIPMENT GROUNDS EXCEPT FOR ONE SPECIFIC POINT.

Mobile

DUCHESS CAMPUSS
5633 WARREN PARKWAY
PO BOX 1385
Poughkeepsie, NY 12569-1385

HOLDS GROUND BARS SHALL BE SUPPORTED BY MOUNTING BRACKETS. USE #2 AWG SOLID THINNED ARRESTOR GROUNDS LUGS THINNED W/ #2 AWG SOLID THINNED ARRESTOR GROUNDS LUGS. CONDUCTOR SHALL BE COPPER #12 AWG AND SOLID UNTIL TERMINATING AT THE MAIN GROUNDING POINT (i.e. EXTERIOR GROUND RING, OR BURSTER GROUND BAR (BGB)).

THE PURPOSE OF THE SURGE ARRESTOR GROUND BAR IS FOR LIGHTNING PROTECTION. THE SURGE ARRESTOR GROUND BAR IS LOCATED ON THE WAVEGUIDE BRIDGE. SUPPORT CLOSEST TO THE EQUIPMENT, ONE FACE OF THE BAR SHALL HAVE A MINIMUM OF (28) 5/8" HOLES. HOLES SHALL BE IN PAIRS THAT ARE 1" CENTER TO CENTER. THE OTHER FACE SHALL HAVE (5) 5/8" HOLES AS CENTER TO ATTACH AND GROUND LEADS. LEADS SHALL HAVE (5) 5/8" HOLES AS CENTER TO ATTACH AND GROUND LEADS. SUPPORTED BY MOUNTING BRACKETS WITH INSULATION STANDOFFS.

1.4 GROUND ROD AND GROUND RING PLACEMENT:

THE OUTSIDE GROUND RING SHALL BE PLACED AROUND THE BITS OF THE GROUND RING. THE GROUND RING SHALL BE PLACED AT A DISTANCE OF TWO (2) FEET FROM THE BITS AT A DEPTH OF 30". THE GROUND RING SHALL BE PLACED IN A LINEAR FASHION. THE GROUND RING SHALL BE PLACED SO THAT THE TOP OF THE RODS IS AT THE LEVEL OF THE GROUND RING CONDUCTOR. THE RODS SHALL BE PLACED MINIMALLY ALONG THE RING AT THE POINTS LOCATED.

PROJECT NO: DA-4391
DRAWN BY: CG
CHECKED BY: JC
DATE: 10-11-01
RELEASED FINAL CO: 10-11-01

A. BELOW THE AREA OF THE INTERNAL MASTER GROUND BAR (BGB) FOR CONNECTION TO THE WAVE GUIDE.
B. BELOW THE CIRCLE FOR CONNECTION TO THE MAIN GROUND ROD.
C. BELOW THE CIRCLE OF THE BITS.
D. AS REQUIRED TO ACHIEVE A MAXIMUM SPACING OF EIGHT FEET BETWEEN GROUND RODS ALONG THE RING PERIMETER.
E. AS REQUIRED ALONG THE RING PERIMETER TO ACHIEVE 5 OHMS OR LESS RESISTANCE WHEN TESTED.
F. TWO RODS LOCATED ON OPPOSITE SIDES AT EACH TOWER LEG OR MONOPOLE.
G. ONE ROD LOCATED BENEATH EACH END OF THE WAVE GUIDE BRIDGE OR CABLE TRAY.
H. WHERE APPROPRIATE ROD LOCATED ADJACENT TO THE STATION GENERATOR AND ONE ROD LOCATED TO THE GND TANK ADJACENT TO THE GND TANK OR EARTH (6' TEL).
I. ONE ROD LOCATED AT THE BASE OF THE TOWER FOR THE LEG MONOPOLE.

1.5 TOWER GROUNDS:
ALL MONOPOLIES SHALL HAVE TWO GROUND RODS (NUMBERED), ALL OTHER TOWERS SHALL HAVE TWO GROUND RODS OR TOWER LEGS. EACH TOWER LEG, EACH MONOPOLE OR TOWER LEG SHALL HAVE A MINIMUM OF 20' LENGTH. GND TANK SHALL BE PLACED ON A TOWER LEG AND GND TANK SHALL BE PLACED ON A TOWER LEG. GND TANK SHALL BE PLACED ON A TOWER LEG AND GND TANK SHALL BE PLACED ON A TOWER LEG. GND TANK SHALL BE PLACED ON A TOWER LEG AND GND TANK SHALL BE PLACED ON A TOWER LEG.

1.6 TOWER GROUNDS:
EACH INTERNAL GROUND CABLE SHALL TYPICALLY BE GROUNDED AT ONE POINT USING A #1/0 AWG SHELL GND CABLE, KIT FROM THE MANUFACTURER OF THE ANTENNA CASE. A TYPICAL INSTALLATION SHALL BE AS FOLLOWS:

A. THE FIRST GROUND CONNECTION SHALL OCCUR AS CLOSE TO THE ANTENNA AS POSSIBLE BELOW THE FIRST TOWER LEG. THE GND CABLE BEING USED TO GND THE GND TANK AND THE TOWER LEG. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS SHALL BE PLACED ON A TOWER LEG AND GND TANK.

B. THE SECOND GROUND CABLE SHALL BE AT THE BOTTOM OF THE VERTICAL RIB OF THE COAXIAL CASE AS IT IS CUT AWAY FROM THE TOWER. THIS CABLE SHALL BE GND CABLE. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK. THIS CABLE SHALL BE PLACED ON A TOWER LEG AND GND TANK.

1.7 ANTENNA GROUNDS:

1.8 PRODUCT NUMBER:

SCSP10-0012

4th ARMY MEMORIAL

DA4391

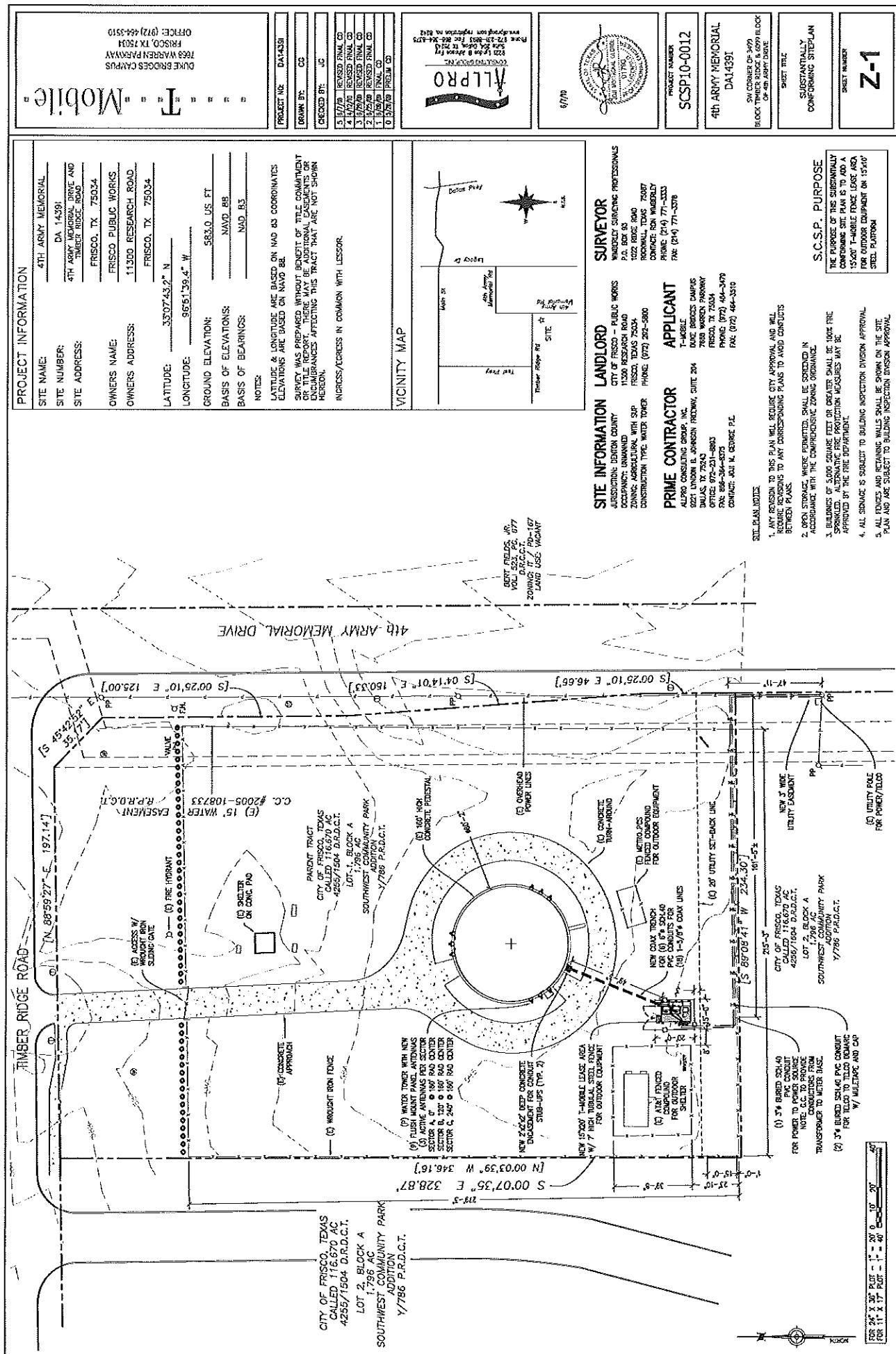
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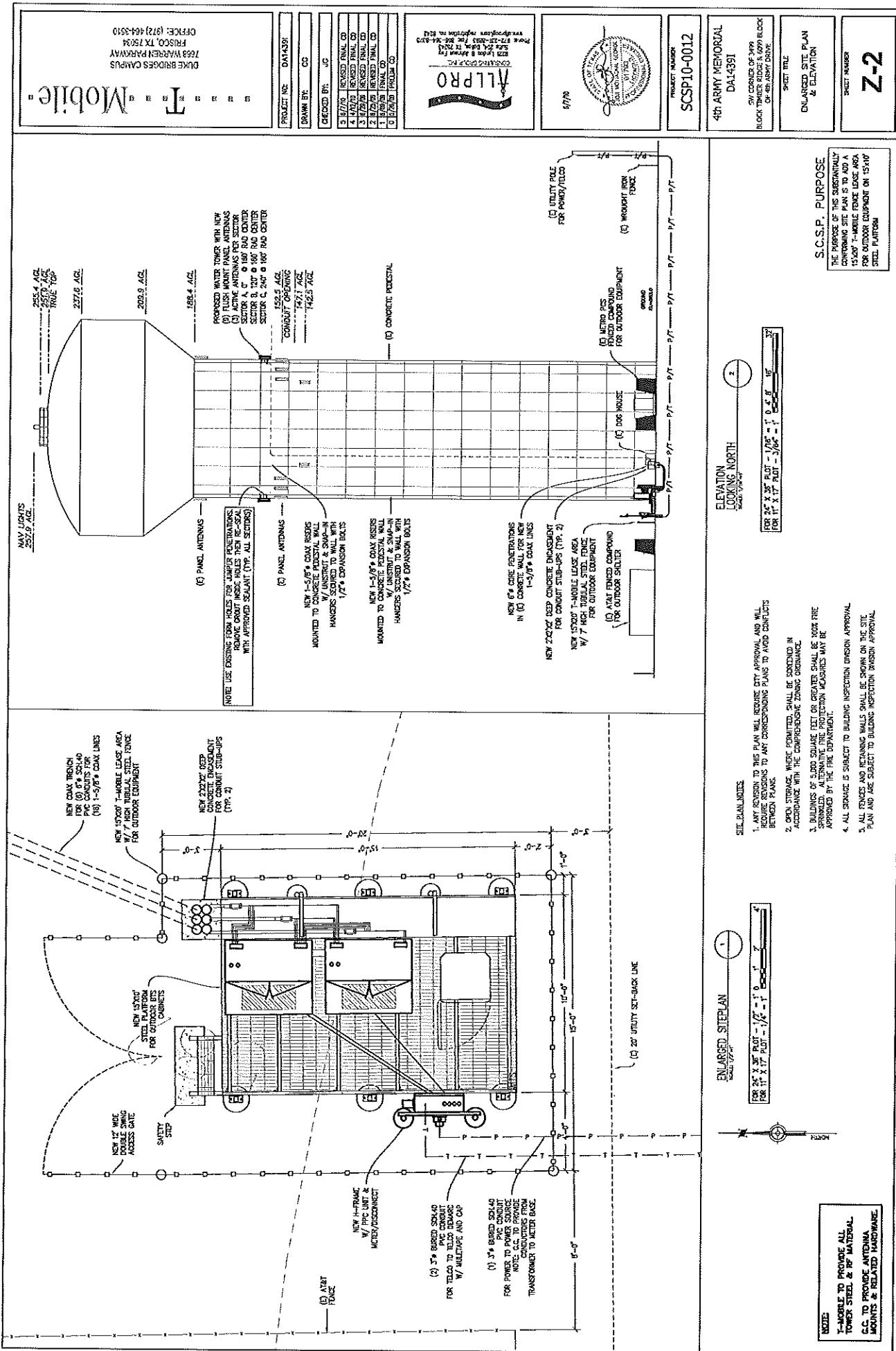
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SHEET NUMBER

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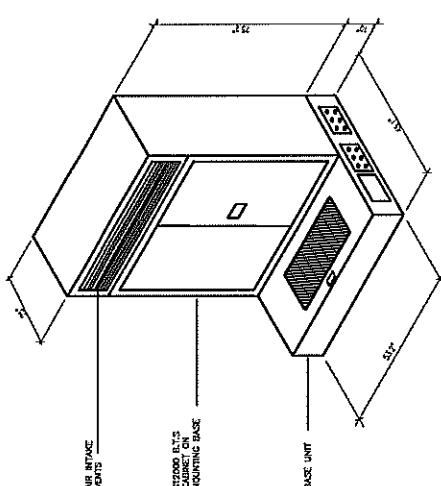
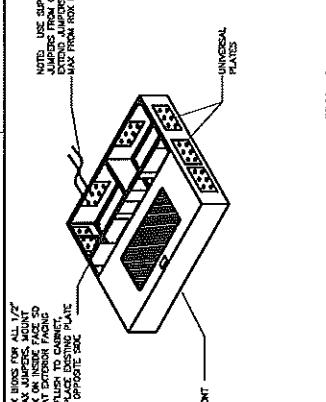
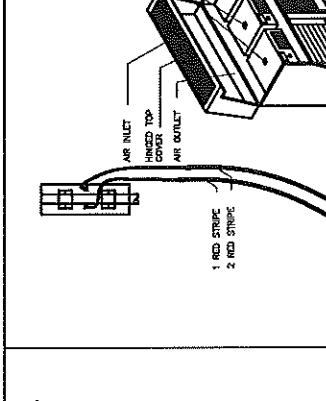
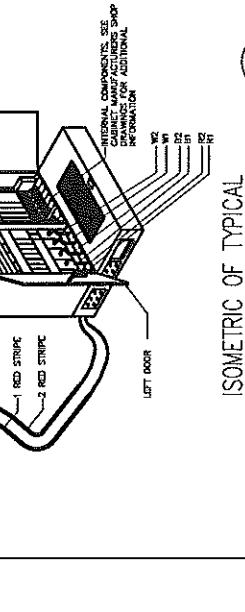
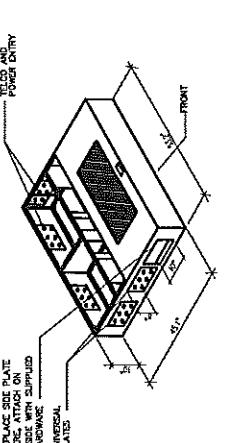
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DUKE BRIDGES CAMPUS 7650 WINDERMERE DRIVE (972) 456-1304		PROJECT NUMBER DA14391	
GROUNDING STANDARDS (CONTINUED)			
1.8 PERIMETER FENCE GROUNDING:			
A. CORNER AND END POSTS (MINIMUM OF TWO) SHALL HAVE ONE 1/2" SOLID THINNED COPPER WIRE CONNECTED TO THE GROUND RING. ALL GATE POLES SHALL BE CONNECTED TO THE GROUND RING.			
B. GATES SHALL BE BOUNDED TO EACH OTHER TO ENSURE THE FENCE POLE HAS ELECTRICAL CONTINUITY. CONNECTIONS SHALL BE MADE WITH BURNDY FASTENERS. GATES SHALL BE PROVIDED WITH A #2 AWG BARE SOLID TINNED COPPER WIRE.			
C. GATES SHALL BE BOUNDED TO GATE POLES WITH A 15' BRAIDED STRANDED COPPER WIRE. THE CONNECTIONS SHALL BE BURNDY 2 HOLE LUGS (2/8" HOLES, 1" CENTER TO CENTER), BOLTED THROUGH EACH POST.			
3.9 GENERATOR FUEL TANK GROUNDING:			
THE GENERATOR FUEL TANK, IF REQUIRED, SHALL BE CONNECTED AT ONE PLACE TO THE MAIN GROUND RING AND AT ANOTHER PLACE TO THE SUPPORT LEG OF THE FUEL TANK AND CAD WELD TO THE NEAREST EXTERIOR GROUND RING GROUND ROD.			
3.10 EQUIPMENT ROOM GROUNDING:			
THE MASTER GROUND BAR (ANG) SERVES AS THE COLLECTION POINT FOR THE NETS AS WELL AS ALL INTERNAL NON-ELECTRICAL GROUNDED METAL MATERIALS (WAV GRILLS, DOOR FRAMES/DOORS, TELCO EQUIPMENT, INSTRUMENTS, CABLE PLATES, ALARM JUNCTION BOX, ETC.). THE GROUND BARS ARE TAPPED TO THE VAC UNEARTHED POWER SOURCE AND PROVIDE A POINT FOR GROUNDING THE INDIVIDUAL EQUIPMENT UNITS. A SEPARATE GROUND BUS MAY BE JACKETED TOGETHER AND HAVE A SINGLE GROUND WIRE CONNECTION TO THE MGR.			
3.11 WALL INDENTATIONS, SLEEVES, ETC. INSTALLED FOR CONSTRUCTION DRAWDOWNS.			
3.12 A/C COMMERCIAL POWER GROUNDING CONNECTIONS:			
AT THE GATE, RIVER POLICE STATION OR UNDERGROUND SERVICE ENTRANCE, RIVER POLICE STATION OR UNDERGROUND SERVICE ENTRANCE, A GROUND CONNECTION SHALL BE PROVIDED BY THE NATIONAL ELECTRIC CODE. ARTICLE 250, AND/OR APPROPRIATE LOCAL CODES. A SEPARATE GROUND ROD SHALL BE PROVIDED AT THIS POINT, AND SHALL BE CONNECTED TO THE EXTERIOR GROUND RING. A SEPARATE GROUND AND NEUTRAL LINE SHALL BE PROVIDED BY THE BUILDING (WHERE APPLICABLE) OR AS REQUIRED BY LOCAL AUTHORITY.			
3.13 GENERATOR RECEPTACLE GROUNDING:			
THE GENERATOR RECEPTACLE (HOBBLER PLUG) SHALL BE GROUNDED TO THE EQUIPMENT GROUND RING.			
3.14 COAX BRIDGE / CABLE TRAY GROUNDING :			
BOND THE COAX BRIDGE OR CABLE TRAY TO THE A/C WITH #6 STRANDED INSULATED GREEN WIRE. THESE CONNECTIONS SHALL BE DOUBLE SPLICED MECHANICAL CONNECTIONS WITH STAR LOCK WASHERS & NUTS. ALL BRIDGE SPlices SHALL HAVE JUMPMERS OF #6 STRANDED INSULATED GREEN WIRE.			
3.15 CAD WELD & BURNDY CONNECTION:			
CAD WELDS (GROUTING WELDS) AND BURNDY CONNECTIONS SHALL BE USED WHEREVER POSSIBLE. GROUTING IS NOT TO BE USED FOR GATE POLES. ANTENNA GROUND BARS (ABOVE SURFACE, ARRESTOR GROUND BAR, AND THE Master GROUND BAR (WOB)) MECHANICAL CONNECTIONS SHALL BE VERTICALLY USED TO BOND ALL INTERIOR EQUIPMENT GROUNDS AND CANALICULUS GROUNDS. GROUT WELDS ARE TO BE USED ON EXTERIOR GROUNDS. TWO HALF "T" RODS CONNECTED WITH STAINLESS STEEL LOCK WASHERS AND NUTS ON EACH SIDE OF THE BRIDGE BAR.			
3.16 CHEMICAL GROUND RODS			
CHEMICAL GROUND RODS SHALL NOT BE INSTALLED ON GROUNDED RING. CHEMICAL GROUND RODS THAT REQUIRE SINGLE POINT GROUNDRING DUE TO SPECIFIC SITE CONDITIONS,			
B. AN ACTIVE TYPE CHEMICAL ROD SYSTEM MAY BE USED, ONLY WHERE NECESSARY, DUE TO CHRONIC IN ALL CASES, THE STANDARD PRACTICES OUTLINED IN THIS DOCUMENT SHOULD BE FOLLOWED. TO THE EXTENT THAT IT IS APPROPRIATE, AND SHOULD BE CONTRACTED OUT, THE PROJECT MANAGER MAY USE THE MANUFACTURER'S DESIGN, ONE IS RECOMMENDED BY THE MANUFACTURER OF THE GROUND ROD SYSTEM.			
C. A SYSTEM UTILIZING CURED SHAKTS, STANDARD GROUND RODS, HIGH CARBON STEEL, BENTONITE, AND A BACKFILL, IN THE CASE EACH ROD, WHICH IS BENTONITE, SHOULD HAVE AN ACCESS BOX PLACED FOR FUTURE TESTING.			
3.18 LIMITS OF ROD RADII:			
IT IS IMPORTANT THAT THE GROUNDRING CONDUCTOR, CONNECTING THE INSIDE AND OUTSIDE GROUNDRING SYSTEMS, IS STRAIGHT AS POSSIBLE, WITH NO TURN OR DEND SHORTER THAN ONE FOOT RADIUS WITH A THREE FOOT RADIUS PREFERRED. NO RIGHT ANGLE OR SHARP BENDS WILL BE ALLOWED.			
3.19 BODGING PREPARATION & FINISH:			
ALL SURFACES REQUIRE PREPARATION PRIOR TO BONDING OF EITHER CAD WELD OR BURNDY FASTENERS. GALVANIZED SURFACES SHALL BE SCRATCHED OR SCRUBBED TO REMOVE THE CRUDE CONDUCTIVE FILM AND THE OIL COATING. ALL SURFACES SHALL BE REFINISHED PRIOR TO BONDING THE GROUND CONDUCTOR.			
CAD TYPE BONDS SHALL BE FINISHED WITH THE APPLICATION OF CAD GALVANIZATION AND WHEN APPLICABLE, FINISH PAINTED WITH AN APPROPRIATE COLOR. AS RECOMMENDED BY THE APPLICANT. NO CAD BONDS SHALL BE PROVIDED UNLESS MECHANICAL TYPE BONDS BETWEEN CONNECTOR AND BUS BAR. FINISHED WITH THE APPLICATION OF CAD GALVANIZATION AND OR THE APPROPRIATE PAINT TO MATCH AS REQUIRED.			
3.20 TESTING:			
THE OUTSIDE GROUND RODS SHALL BE TESTED AFTER INSTALLATION BUT RESISTANCE SHALL NOT EXCEED 20 OHMS. THE GROUNDRING FIELD, IN A SIMILAR FASHION AS IN THE STRUCTURAL FIELD, EQUIPMENT AND ANTENNAE, SHOULD NOT BE TESTED AS PART OF THE PROJECT. THE SEPARATE DOWN LEADS SHOULD NOT CONTACT EACH OTHER UNTIL CONNECTION WITH THE FIRST GROUND ROD.			
3.21 EXTERNAL GROUND RING:			
THE EXTERNAL GROUND RING RBC SHALL EXTEND TO THE MAXIMUM ALLOWABLE DEPTH IN ONE CHAMPCAGE SOIL.			
3.21.1 GROUND RODS (REPLACEMENT)			
WHICH GROUND RODS CANNOT BE DRIVEN IN PAVING, PPA, AND REINFORCED CONCRETE OR OTHER IMPENETRABLE SOIL, THEN THE FOLLOWING METHODS OF SUBSTITUTION MAY BE USED. THESE ARE SUCCINCT METHODS ONLY, AND EACH CASE SHOULD BE REVISED BY THE VIBESTREAMS PROJECT MANAGER. THE PURPOSES IS TO ACHIEVE THE LOWEST IMPEDIMENT TO GROUNDING, IN ANY CASE, EQUAL TO OR LESS THAN 5 OHMS.			
3.21.2 GROUND RODS WITH SOME OR NO SOIL COVER			
FOR SITES WHICH HAVE SOIL CONDITIONS WHICH CONSIST OF SOIL THAT ARE SOIL COMPACTED, THE USE AND RELOCATION OF GROUND RODS, THE COOPER PLATE SHOULD BE PLACED IN A MINIMUM 3" BENTONITE BASE AND COVERED WITH 3" OF BENTONITE FILL PRIOR TO BACKFILL.			
A. A COMBINATION OF SHORT GROUND RODS MAY BE USED, WHICH 3" SQUARE 1/4" COPPER PLATES. A MINIMUM OF TWO PLATES SHOULD BE USED AND RELOCATE GROUND RODS. THE COOPER PLATE SHOULD BE PLACED IN A MINIMUM 3" BENTONITE BASE AND COVERED WITH 3" OF BENTONITE FILL.			
3.22 HIGH RISE BUILDING:		3.23 HIGH RISE BUILDING:	
A. HIGH RISE BUILDINGS PRESENT A UNIQUE PROBLEM IN GROUNDRING. A FAULT INVESTIGATION SHOULD BE MADE INTO THE BUILDING'S FOUNDATION, AND THE BOUNDARY OF THE BUILDING. THE GROUNDRING RODS SHOULD BE LOCATED IN A POSITION OF DIRECTLY OPPOSITE OF THE GROUNDRING CONDUCTOR. A COUPLE OF CONCRETE PILES ARE RECOMMENDED, IF ONE IS IN PLACE, AND APPROXIMATELY 10 FT. FROM THE GROUNDRING CONDUCTOR. CONCRETE PILES ARE RECOMMENDED, IF ONE IS IN PLACE, AND APPROXIMATELY 10 FT. FROM THE GROUNDRING CONDUCTOR. IT IS RECOMMENDED TO CONNECT THE ANTENNA SYSTEM TO THE GROUNDRING SYSTEM, WITH A TEST TO THE SYSTEM AFTER INSTALLATION TO ENSURE THAT IT HAS NOT CAUSED THE SYSTEM TO EXCEED 5 OHMS.		B. STRUCTURAL STEEL BUILDINGS, IF THE BUILDING IS BUILT OF ANGLES, T-SHAPE, OR SAW BLADE SHAPES, A GROUNDRING CONDUCTOR SIZE, (OD) 1/2" OR 1" COLD DRAWN, 12 GA. OR CONCRETE PILES, (OD) 1/2" OR 1" COLD DRAWN, 12 GA. OR LARGER, COMING FROM GROUND BUS BARS TO COLLECT THE GROUND INPUT, AND RUN DOWN A VERTICAL SHAFT OR SWIMMING POOL PATTERN, NO LESS THAN FOUR GROUND RODS. TO AVOID THE PRACTICAL, THE BUILDING STEELS SHOULD BE BURNT IN THE GROUND ROD, WITH A SEPARATE LEAD TO THE GROUND ROD.	
C. STRUCTURAL CONCRETE BUILDINGS ARE MORE DIFFICULT TO GROUNDR, PROBABLY. THE ANTENNAS SHOULD BE GROUNDR'D TO A SEPARATE BUS BAR, AND DOWN LEAD WHERE THE CABLES ENTER THE BUILDING. THE DOWN LEAD SHOULD BE RUN IN A SIMILAR FASHION AS IN THE STRUCTURAL FIELD. EQUIPMENT AND ANTENNAE SHOULD NOT BE TESTED AS PART OF THE PROJECT. THE SEPARATE DOWN LEADS SHOULD NOT CONTACT EACH OTHER UNTIL CONNECTION WITH THE FIRST GROUND ROD.		3.24 HIGH RISE BUILDING:	
A. 3.25 HIGH RISE BUILDING:		B. 3.26 HIGH RISE BUILDING:	
C. 3.27 HIGH RISE BUILDING:		D. 3.28 HIGH RISE BUILDING:	

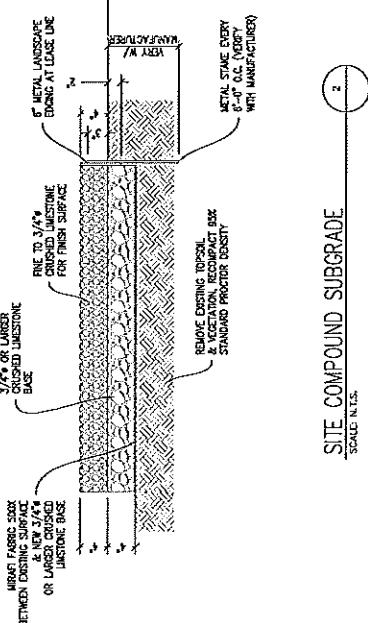
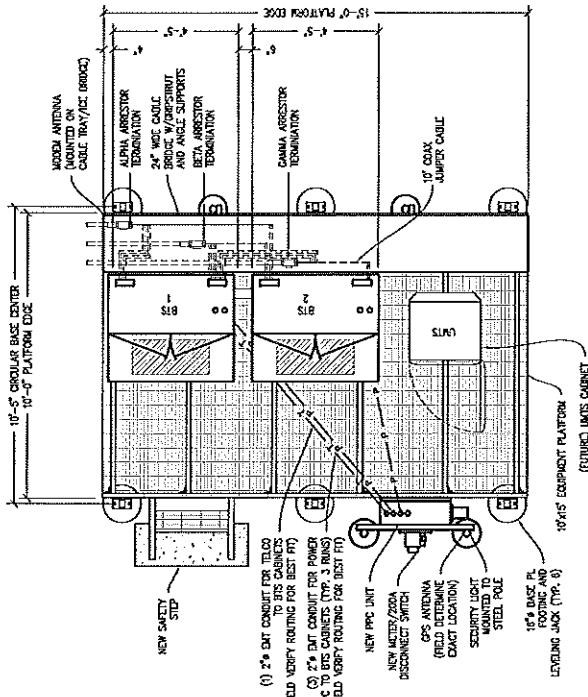
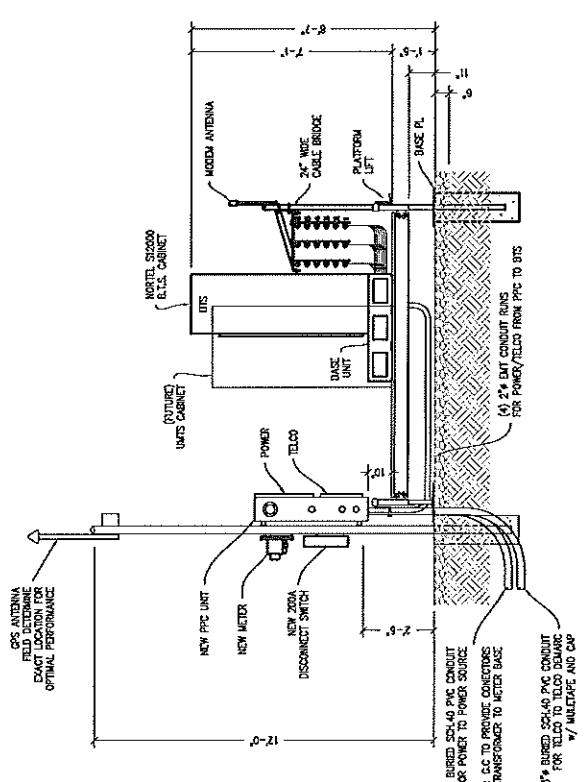




<p>COAX CABLE IDENTIFICATION</p> <p>CONTRACTOR MUST PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA CABLING, PER THE FOLLOWING INSTRUCTIONS:</p> <ol style="list-style-type: none"> LOCATION: MARKINGS SHALL BE MADE USING COLOR TAPE W/ .5" OF COVERAGE APPLIED AT THREE PLACES ON THE COAX CABLE RUN AS FOLLOWS: <p>FIRST - ON THE COAX AT THE CONNECTOR NEAREST THE ANTENNA (WHERE THE COAX AND JUMPER ARE CONNECTED).</p> <p>SECOND - AT THE BASE OF THE TOWER STRUCTURE. (FOR TOWERS ONLY).</p> <p>THIRD - AT A POINT OUTSIDE THE BYTS. (LAST PRIOR TO WOB)</p> <ol style="list-style-type: none"> SECTOR IDENTIFICATION: NORMALLY A SITE WILL HAVE UP TO THREE SECTORS. SECTORS SHALL BE DESIGNATED IN A CLOCKWISE MANNER: THE ALPHA SECTOR IS CLOSEST TO ZERO DEGREES (NORTH) THE BETA AND GAMMA FOLLOW CLOCKWISE IN SEQUENCE. <p>ALPHA SECTOR - RED BETA SECTOR - BLUE GAMMA SECTOR - WHITE.</p> <p>SEE SHEET C-5</p> <p>3. CABLE IDENTIFICATION: FOR QM SITES, WHICH NORMALLY CONSIST OF THREE ANTENNA, IT IS SUGGESTED THAT THE ORIENTATION OF THE OBSERVER ALSO BE THAT OF LOOKING IN A NORTHERLY DIRECTION.</p>	<p>DUKE BRIDGES CAMPUS 7699 WARRIOR CAMPUS FIRECONE, TX 76540 0700-7450-3510</p> <p>PROJECT NO.: DA14391 DRAWN BY: CC CHECKED BY: JC 5/6/20 REvised: TRAIL CD 4/6/20 REvised: TRAIL CD 3/6/20 REvised: TRAIL CD 2/6/20 REvised: TRAIL CD 1/6/20 TRAIL CD 0/5/20 PRELIM CD</p> <p>ALLPR0</p> <p>DA14391-0012</p> <p>4th ARMY MEMORIAL DA14391 SW CORNER OF 2096 BLOCK: THREE STORE & 600' BLOCK OF 4TH ARMY DRIVE</p> <p>NOTE: PM/RF ENGINEER TO VERIFY</p> <p>SECTION VIEW</p> <p>DETAIL "A"</p> <p>NEW PENETRATIONS</p> <p>TOP OF SUB</p> <p>DISTING. GRADE</p> <p>WALL-MOUNT BRACKET (CONICOOP/ANDREW PART #M-1050 OR DIAL) FOR 4 RUNS OF COAX OR 8 RUNS OF COAX</p> <p>COAX CABLE IDENTIFICATION CHART</p> <p>Scale: 1/8"</p>	<p>COAX BEND TABLE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>CABLE SIZE</th> <th>ANDREW CABLE MANUF. MIN BEND RADIUS</th> <th>HANGER CAT. #</th> <th>CABLE TO MAX VER. MAX HOR. SPACING</th> <th>HANGER SPACING</th> </tr> </thead> <tbody> <tr> <td>1/2"</td> <td>LD F4-50A</td> <td>5"</td> <td>206706-1</td> <td>1/2"</td> </tr> <tr> <td>7/8"</td> <td>LD F5-50A</td> <td>10"</td> <td>206706-2</td> <td>1/2"</td> </tr> <tr> <td>1-5/8"</td> <td>LD F7-50A</td> <td>20"</td> <td>206706-4</td> <td>1/2"</td> </tr> <tr> <td>1/2"</td> <td>FS J4-50B</td> <td>1-1/4"</td> <td>206706-1</td> <td>1/2"</td> </tr> </tbody> </table> <p>NOTE: PM/RF ENGINEER TO VERIFY</p> <p>COAXIAL CABLE TABLE</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th>SECTOR</th> <th>AZIMUTH</th> <th>CABLE LENGTH</th> <th>CABLE SIZE</th> <th>LOSS/100'</th> <th>TOTAL LOSS</th> </tr> </thead> <tbody> <tr> <td>A</td> <td>0°</td> <td>331'</td> <td>1 5/8"</td> <td>1.2</td> <td>3.79 dB</td> </tr> <tr> <td>B</td> <td>120°</td> <td>341'</td> <td>1 5/8"</td> <td>1.2</td> <td>4.09 dB</td> </tr> <tr> <td>C</td> <td>240°</td> <td>273'</td> <td>1 5/8"</td> <td>1.2</td> <td>3.29 dB</td> </tr> </tbody> </table> <p>MAXIMUM 18 LINES, 2 LINES PER SECTOR)</p> <p>TOTAL COAX LENGTH: SECTOR A = 1.986' ± TOTAL COAX LENGTH: SECTOR B = 2.046' ± TOTAL COAX LENGTH: SECTOR C = 1.638' ±</p> <p>COAX CABLE DETAILS</p> <p>DETAIL "B"</p> <p>Scale: 1/8"</p> <p>COAX SPECIFICATION TABLE</p> <p>Scale: 1/8"</p> <p>DETAIL "C"</p> <p>Scale: 1/8"</p>	CABLE SIZE	ANDREW CABLE MANUF. MIN BEND RADIUS	HANGER CAT. #	CABLE TO MAX VER. MAX HOR. SPACING	HANGER SPACING	1/2"	LD F4-50A	5"	206706-1	1/2"	7/8"	LD F5-50A	10"	206706-2	1/2"	1-5/8"	LD F7-50A	20"	206706-4	1/2"	1/2"	FS J4-50B	1-1/4"	206706-1	1/2"	SECTOR	AZIMUTH	CABLE LENGTH	CABLE SIZE	LOSS/100'	TOTAL LOSS	A	0°	331'	1 5/8"	1.2	3.79 dB	B	120°	341'	1 5/8"	1.2	4.09 dB	C	240°	273'	1 5/8"	1.2	3.29 dB
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<p>ANTENNA PIPE MOUNT</p> <p>PIPS PANEL ANTENNA TIP AT ALL ANTENNAS (2) LINES PER ANTENNA 2 DUES PER ANTENNA</p> <p>1/2" COAX JUMPER CABLE MAX LENGTH 4' (2) LINES PER SECTOR (6) TOTAL (6)</p> <p>FULL BAND LNA (2) LNA'S PER SECTOR (6)</p> <p>COAX TRANSMISSION LINES TO DTS</p> <p>NOTE: USE LOSING FORM HOLES TO HOLD GROUT NECESSARY ON REINFORCED WALL APPROVED SEALANT (TP, ALL SECTORS)</p>	<p>ANTENNA SECTOR LAYOUT</p> <p>120° 120° 120° 120° 120° 120° (2) DUELS PER SECTOR</p>	<p>ANTENNA DETAIL</p> <p>SCALD NONE</p> <p>1. ALL ANTENNAS TO BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER.</p> <p>2. ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0. ANTENNA HEIGHTS ARE SHOWN ON TOWER ELEVATION SHEET C-4.</p> <p>3. ANTENNA AZIMUTHS SHOWN ON SITE PLAN, SHEET C-3, C-4, C-5.</p> <p>4. SEE COAX CABLE CHART THIS SHEET FOR CABLE DIAMETERS.</p> <p>5. CHECK WITH RF ENGINEER FOR LATEST ANTENNA TYPE & AZIMUTH.</p> <p>6. CONTRACTOR SHALL VERIFY ANTENNA TYPE AND AZIMUTH WITH CONSTRUCTION MANAGER PRIOR TO CONSTRUCTION.</p> <p>NOTES</p> <p>SCALD NONE</p>																																																												
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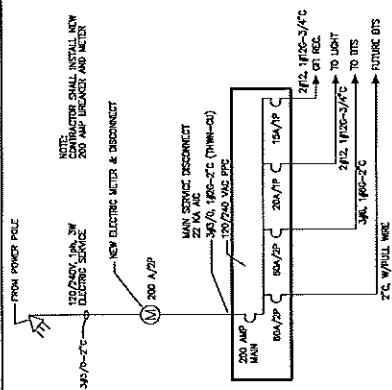
<p style="text-align: center;">Mobile</p>  <p>S12000 B.T.S. CABINET ON MOUNTING BASE BASE UNIT AIR INTAKE VENTS S12000 N.T.S.</p>	<p>PROJECT No.: DA14591 DRAWN BY: CC CHECKED BY: JC REVISIONS: 5 5/7/80 1 5/7/80 2 5/7/80 1 5/7/80 0 5/7/80</p>	<p>ALLPRO 5/7/80 S12000 B.T.S. CABINET</p>	<p>4TH ARMY MEMORIAL DA14591 SCSP10-0012 S12000 NORT. EQUIPMENT CABINET DETAILS SHEET NUMBER C-4</p>																																					
<p>S12000 B.T.S. CABINET S12000 N.T.S.</p>  <p>NOTES: USE SUPER-IND 1 1/2" JUMPS FROM CABLES TO EXISTING JUNCTIONS. LENGTH MAX FROM ONE SIDE OF CABINET TO OTHER SIDE. USE UNIVERSAL PLATES. FRONT</p> <table border="1" style="margin-top: 10px;"> <tr><td>HEIGHT</td><td>75.2 in (1910)</td></tr> <tr><td>WIDTH</td><td>24.6 in (620mm)</td></tr> <tr><td>DEPTH</td><td>24.6 in (620mm)</td></tr> <tr><td>MATERIAL WEIGHT</td><td>1250 lbs (1140kg) INCL. BASE</td></tr> <tr><td>FOOTPRINT</td><td>340 in²</td></tr> <tr><td>EMPTY WEIGHT</td><td>301.25 lbs (136kg)</td></tr> <tr><td>VOL. CAP.</td><td>254V 1.15A</td></tr> <tr><td>MAIN POWER (CHARGE)</td><td>6000 W</td></tr> <tr><td>MAIN CIRCUIT PROTECTION</td><td>50 A</td></tr> <tr><td>MAIN HEAT DISCHARGE</td><td>2000 BTU/HOUR</td></tr> <tr><td>NORMAL HEAT DISCHARGE</td><td>1100 BTU/HOUR</td></tr> <tr><td>OPERATING TEMPERATURE</td><td>-40° F to 127° F (-40° C to 50° C)</td></tr> <tr><td>MAXIMUM OPERATING HUMIDITY</td><td>100%</td></tr> <tr><td>MAX. LEVEL OF ACOUSTIC NOISE</td><td>45 dB</td></tr> <tr><td>GROUND CABLE</td><td>20 AWG</td></tr> <tr><td>ANTENNA CONNECTION</td><td>40.3 DB</td></tr> <tr><td>REFUSE SENSITIVITY</td><td>-10% TONE</td></tr> <tr><td>REFUSE POWER SOURCE</td><td>2000 BTU/HOUR</td></tr> <tr><td>REFUSE POWER SOURCE</td><td>3000 BTU/HOUR</td></tr> </table>	HEIGHT	75.2 in (1910)	WIDTH	24.6 in (620mm)	DEPTH	24.6 in (620mm)	MATERIAL WEIGHT	1250 lbs (1140kg) INCL. BASE	FOOTPRINT	340 in ²	EMPTY WEIGHT	301.25 lbs (136kg)	VOL. CAP.	254V 1.15A	MAIN POWER (CHARGE)	6000 W	MAIN CIRCUIT PROTECTION	50 A	MAIN HEAT DISCHARGE	2000 BTU/HOUR	NORMAL HEAT DISCHARGE	1100 BTU/HOUR	OPERATING TEMPERATURE	-40° F to 127° F (-40° C to 50° C)	MAXIMUM OPERATING HUMIDITY	100%	MAX. LEVEL OF ACOUSTIC NOISE	45 dB	GROUND CABLE	20 AWG	ANTENNA CONNECTION	40.3 DB	REFUSE SENSITIVITY	-10% TONE	REFUSE POWER SOURCE	2000 BTU/HOUR	REFUSE POWER SOURCE	3000 BTU/HOUR	<p>B.T.S. MOUNTING DETAIL S12000 N.T.S.</p>  <p>NOTES: USE SUPER-IND 1 1/2" JUMPS FROM CABLES TO EXISTING JUNCTIONS. LENGTH MAX FROM ONE SIDE OF CABINET TO OTHER SIDE. USE UNIVERSAL PLATES. FRONT</p> <p>NOTES: REPLACE SIDE PLATE HERE, ATTACH ON INSIDE WITH SUPPLIED UNIVERSAL PLATES.</p> <p>FRONT</p>	<p>ISOMETRIC OF TYPICAL S12000 B.T.S. CABINET S12000 N.T.S.</p>  <p>NOTES: INTERNAL COMPONENTS SEE CABINET MANUFACTURER FOR ADDITIONAL INFORMATION RIGHT DOOR LEFT DOOR AC BOX INTERNAL BATTERIES CLIMATE UNITS (2 TOTAL) AIR INLET Hinged Top Cover AIR OUTLET 1 RED STRIPE 2 RED STRIPE UNIVERSAL PLATES TO COAX AND POWER ENTRY FRONT</p>
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<p>S12000 MOUNTING BASE - DETAIL S12000 N.T.S.</p>  <p>NOTES: REPLACE SIDE PLATE HERE, ATTACH ON INSIDE WITH SUPPLIED UNIVERSAL PLATES.</p> <p>FRONT</p>	<p>SPECIFICATION TABLE S12000 SPECIFICATION TABLE SCALE: N.T.S.</p>																																							

<p align="center">T - Mobile</p> <p align="right">DIXIE BRIDGES CAMPUS 7003 WARENNE PREVIEW FORT WORTH, TX 76130 PHONE: (817) 661-3510</p>		<p align="right">PRODUCT NO.: DA-4391 DRAWN BY: CG CHECKED BY: JC REvised Final CD 5/17/70 REvised Final CD 4/19/70 REvised Final CD 3/9/70 REvised Final CD 2/9/70 REvised Final CD 1/9/70 REvised Final CD 0/9/70 REvised Final CD</p>	
 <p>SITE COMPOUND SUBGRADE SCALE: N.T.S.</p> <p>This diagram shows a cross-section of the site compound subgrade. It features a base layer of crushed limestone with a thickness of 3/4" or larger. Above it is a topsoil layer with a thickness of 3/4" to 1 1/2". A hatched area indicates the existing soil. The subgrade is designed to have a 1% grade away from the building. A note specifies that metal stakes every 8'-0" shall be driven at least 12" deep. The overall dimensions of the site are 15'-0" wide by 15'-0" deep.</p>		<p align="center">ALLPRO</p> <p align="right">CONTRACTOR: ALLPRO DATE: 6-10-70 PROJECT NUMBER: SCSP10-0012 4th ARMY MEMORIAL DA-4391 SUB CONTRACTOR: ALLPRO BLOCK THREE, STONE & CONCRETE O-46 JONES DRIVE SHEET TITLE: EQUIPMENT LAYOUT DRAWING NUMBER: C-5</p>	
<p align="center">COAXIAL EQUIPMENT ENTRY TO BE INSTALLED BY GENERAL CONTRACTOR PROCEDURE FOR SWEEP TESTING</p> <p align="right">TO BE ATTACHED AND PROVIDED BY T-MOBILE PROJECT MANAGER. CHECK WITH PROJECT MANAGER FOR ADDITIONAL INFORMATION OR IF SWEEP PROCEDURE.</p>			
 <p>EQUIPMENT LAYOUT (LEFT HAND VIEW) SCALE: 1/2"-0"</p> <p>This diagram shows the layout of equipment on the left side of the site. It includes a (FUTURE) UNITS CABINET, a NEW PPC UNIT, a NEW ZONE DISCONNECT SWITCH, and a NEW ANTENNA. A 10'x10' EQUIPMENT PLATFORM is shown. Various cables and conduits are labeled, such as (1) 2" ENT CONDUIT FOR TELCO, (2) 2" ENT CONDUIT FOR POWER FROM PCU TO BTS CABINETS (TOP: 3 RINGS), (3) 2" ENT CONDUIT FOR POWER FROM PPC UNIT TO TELCO, (4) 2" ENT CONDUIT FOR POWER FROM PPC UNIT TO TELCO, and (5) 1" DUC PL. LEVING JACK (TOP: 8).</p>		 <p>EQUIPMENT LAYOUT (RIGHT HAND VIEW) SCALE: 1/2"-0"</p> <p>This diagram shows the layout of equipment on the right side of the site. It includes a (FUTURE) UNITS CABINET, a NEW PPC UNIT, a NEW ZONE DISCONNECT SWITCH, and a NEW ANTENNA. A 10'x10' EQUIPMENT PLATFORM is shown. Various cables and conduits are labeled, such as (1) 3" BURIED SOH-40 CONDUIT FOR POWER TO POWER SOURCE, (2) 3" BURIED SOH-40 CONDUIT FOR TELCO TO TELCO DEMONSTRATOR, (3) 2" ENT CONDUIT RUNS FOR POWER/TELCO FROM PPC TO BTS, and (4) 2" ENT CONDUIT RUNS FOR POWER/TELCO TO TELCO DEMONSTRATOR.</p>	
<p align="center">ANALYSIS OF FOUNDATION & NEW PLATFORM AND EQUIPMENT CABINETS BY OTHERS.</p>			

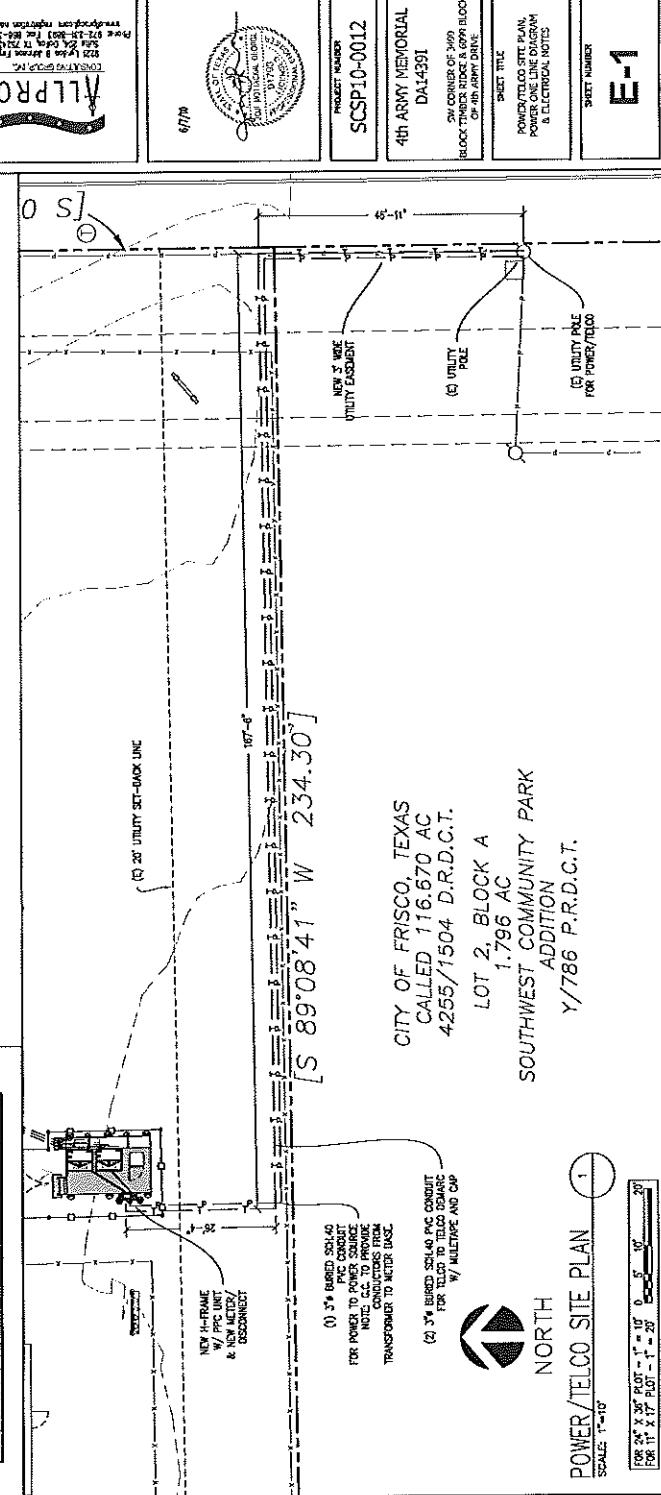
<p style="text-align: center;">MOBILE</p> <p>DRIVE 8800 EES CAMPUS 7665 WADDELL PARKWAY PLANO, TEXAS 75024-3510 PHONE: 713.542.2076 FAX: 713.542.2076</p> <p>POWER LATCH DISTRIBUTED BY: M & M INDUSTRIAL SUPPLY CO., INC. 211 SANTA FE DRIVE / P.O. BOX 7346 PLANO, TEXAS - (800) 442-3510</p>									
<p>ELEVATION</p>									
<p>PLAN</p>	<p>GATE LATCH DETAIL</p>								
<p>GATE DETAIL</p> <p>NOTE 1: Immediately After Any Welding / Grinding / drilling Fabricator Shall Apply Three (3) Coats of Cold- Galvanizing Compound to cleaned surfaces.</p> <table border="1"> <tr> <td>6' HIGH FENCE</td> <td>FOOTINGS</td> </tr> <tr> <td>LINE POST - 2' DO</td> <td>12'2" x 2'</td> </tr> <tr> <td>CORNER POST - 2' DO</td> <td>12'2" x 2'</td> </tr> <tr> <td>GATE POST - 2' DO</td> <td>12'2" x 2'</td> </tr> </table>	6' HIGH FENCE	FOOTINGS	LINE POST - 2' DO	12'2" x 2'	CORNER POST - 2' DO	12'2" x 2'	GATE POST - 2' DO	12'2" x 2'	<p>TRENCH CROSS SECTION</p> <p>GENERAL NOTES:</p> <ol style="list-style-type: none"> 1. STEEL POSTS WHICH SUPPORT THE SILT FENCE SHALL BE INSTALLED ON A SLIGHT ANGLE TOWARD THE ANTICIPATED RUNOFF SOURCE. POST MUST BE EMBEDDED A MINIMUM OF ONE FOOT. 2. THE TOE OF THE SILT FENCE SHALL BE TRENCHED IN WITH A SPADE OR MECHANICAL TRENCHER, SO THAT THE DOWNSLOPE FACE OF THE TRENCH IS FLAT AND PERPENDICULAR TO THE LINE OF FLOW WHERE FENCE CAN NOT BE TRENCHED IN (E.G. PAVED) WEIGHT FABRIC FLAP WITH WASHED GRAVEL ON UPHILL SIDE TO PREVENT FLOW UNDER FENCE. 3. THE TRENCH MUST BE A MINIMUM OF INCHES DEEP AND INCHES WIDE TO ALLOW FOR THE SILT FENCE FABRIC TO BE LAID IN THE GROUND AND BACKFILLED WITH COMPACTED MATERIAL. 4. SILT FENCE SHOULD BE SECURELY FASTENED TO EACH STEEL SUPPORT POST OR TO WOVEN WIRE, WHICH IS IN TURN ATTACHED TO THE STEEL FENCE POST. 5. INSPECTION SHALL BE MADE WEEKLY OR AFTER EACH RAINFALL, EVENT AND REPAIR OR REPLACEMENT SHALL BE MADE PROMPTLY AS NEEDED. 6. SILT FENCE SHALL BE REMOVED WHEN THE SITE IS COMPLETELY STABILIZED SO AS NOT TO BLOCK OR IMPEDE STORM FLOW OR DRAINAGE. 7. ACCUMULATED SILT SHALL BE REMOVED WHEN IT REACHES A DEPTH OF 6 INCHES. THE SILT SHALL BE DISPOSED OF IN AN APPROVED SITE AND IN SUCH A MANNER AS TO NOT CONTRIBUTE TO ADDITIONAL SITUATION.
6' HIGH FENCE	FOOTINGS								
LINE POST - 2' DO	12'2" x 2'								
CORNER POST - 2' DO	12'2" x 2'								
GATE POST - 2' DO	12'2" x 2'								
<p>FENCE CAP DETAIL</p>	<p>GATE LATCH DETAIL</p> <p>NOTE 2: ALL EQUIPMENT TO BE USED SHALL BE STAINLESS STEEL.</p>								
<p>ALL PRO</p> <p>PROJECT NO.: DAY4301 DRAWN BY: CC CHECKED BY: JC REvised Final CD 4/17/01 Revised Final CD 3/27/01 Revised Final CD 2/26/01 Revised Final CD 1/20/01 Revised Final CD 1/20/01 Revised Final CD</p> <p>4th ARMY MEMORIAL DAI-1331 SI CORNER OF PMP BLOCK ON 2nd ROW SHEET TITLE FENCE DETAILS SHEET NUMBER C-6</p>									

ELECTRICAL NOTES

1. ALL WORK IS TO BE PERFORMED WITH THE LIQUIDATION CONTRACT OF THE NATIONAL ELECTRIC CO-OP. ANY COSTS ASSOCIATED WITH THIS CONTRACT WILL BE FORWARDED TO THE CONTRACTOR, SHELL, FURNISH AND PAY FOR ALL PERIODS AND RELATED FEES.
2. ALL EQUIPMENT AND MATERIALS PROVIDED AND INSTALLED UNDER THIS CONTRACT ARE THE PROPERTY AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM THE DATE OF DELIVERY. ALL CONTRACTOR'S LIABILITY FOR ANY DEFECTIVE OR NONCONFORMING EQUIPMENT SHALL BE LIMITED TO THE REASONABLE, SHALLOW AND TRIVIAL DEFECTS, PROVIDED THAT THE CONTRACTOR IS NOT RESPONSIBLE FOR ANY DAMAGE OR DEFECT WHICH RESULTS FROM THE USE OF THE EQUIPMENT IN AN UNDESIRABLE MANNER OR WHICH IS CAUSED BY THE NEGLIGENCE OR MALPRACTICE OF THE OWNER, OR THE CONTRACTOR, SHELL, FURNISH AND PAY FOR ALL PERIODS AND RELATED FEES.
3. ALL WORK SHALL BE EXECUTED IN A PROFESSIONAL LIFE MANNER AND CONSIDERATION OF THE ENVIRONMENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PAVING RELATED TO ELECTRICAL WORK, AND SMALL RESTORE AND LIFTING JOBSITE, SPONSORED SERVICES, CONTRACTORS, MACHINERY, PAVERS, CONDUIT, CONCRETE, PAVERS, DRAINS, AND OTHER CONTRACTORS.
4. ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL LABOR, EQUIPMENT, MATERIALS, AND SERVICES REQUIRED TO COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEMS, TELEPHONE, AND COMMUNICATION SYSTEMS, PANEL BOARDS, CONDUIT, CONTROLS, PRINT, CIRCUITS, TICS, AS INDICATED ON ELECTRICAL DRAWINGS AND/OR AS REQUIRED BY CONTRACTING CODES.
5. PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING SITE LOCATIONS AND CONDITIONS AND UTILITY SERVICE REQUIREMENTS OF THE AREA, AND BY SPECIFYING THE LOCATION OF EXISTING POLE AND CABLES, SHELL, FURNISH AND PAY FOR ALL PERIODS AND RELATED FEES.
6. PRIOR TO PROVIDING POWER TO THE SERVICE, CONTRACTOR SHALL CONTACT COMPANY PLANNING AND GETTIN ALL SERVICE REQUIREMENTS AND INCLUDE DETAILS FOR SUCH IN THEIR BILL.
7. SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT WITHSTAND RATING EQUAL TO OR GREATER THAN THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. ON THE UTILITY TRANSFORMER SIDEBOARD, THE INSULATION SHALL BE REMOVED FROM ANY PHASE CIRCUITS AND ORIGINALLY.
8. ALL WIRES SHALL BE STRANDED COPPER WIRE THHN/THWN AND 600 VOLTS NOMINAL. ALL GROUND CONDUCTORS TO BE PROVIDED SEPARATELY, EXCEPT GROUND OF PRIMARY COUPLED.
9. IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS, THE NOTE, SPECIFICATION OR COOP, WHICH PRECEDES AND ENCLUSES THE HARVEST STANDARD, WHICH PRECEDES, SHALL PREVAIL.
10. SERVICE CONDUCTORS SHALL HAVE NO MORE THAN (2) 50% TRIPS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE THESE CONDUCTORS WHERE CONTRACTOR FURNISHED CREDIT FOR ALL SPARE CARRIERS FOR THE COOP.
11. ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO MUSKEGAN 100 LUFT, WIND SPEED AND DESIGNED FOR OUTDOOR EXPOSURE.
12. ALL CIRCUIT POWER AND TELEPHONE POSITION CONDUCTORS SHALL HAVE A MINIMUM OF 1/2" OR 1/4" RADIAL SPACING TO EQUIPMENT, SHELL, FURNISH AND PAY FOR ALL RADIALS SHIELDED TO EQUIPMENT, SHELL, FURNISH AND PAY FOR ALL RADIALS, UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.
13. RUSE TIME SHALL BE 0:00:00 AND LOW PEAK TIME (0:00-0:00).
14. UPON COMPLETION OF THE Job, THE CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE COOP.
15. GENERAL CP



ELECTRICAL LOAD SUMMARY			
AREA OF SPACE (sq ft)	CONNECTED LOAD (KVA)	LOAD FACTOR	KW/HRS
LIGHTING (New Hrs)	0.37	0.50	0.53
REFRIGERATORS (1)	1.06	0.40	4.10
UTS (1)	0.20	0.70	1.0
UTS (2)	0.30	0.70	2.10
TELECO PANEL	0.37	1.0	0.9
DEMAND LOAD			0.72
DRYING LOADS			0.14
DRYING LOADS			0.05
DRYING LOADS			0.50



NOTE:
ALL HARDWARE TO BE
PROVIDED BY GENERAL
CONTRACTOR

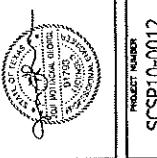
NOTE:
TO PROVIDE CONDUCTORS
FOR THE TRANSFORMER TO THE
METER BASE

PROJECT NO.: DATA SHEET

DRAWN BY: CC

CHECKED BY: JC

ALL PRO



PROJECT NUMBER

SCSP10-0012

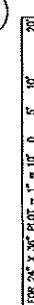
4th ARMY MEMORIAL
DA14391
SW CORNER OF 4TH
BLOCK RIDGE & 6TH BLOCK
SW

BRIEF TIME
POWER/TELCO SITE PLAN,
POWER ONE LINE DIAGRAM
& ELECTRICAL NOTES

SHEET NUMBER
E-1

Y/786 P.R.D.C.T.

POWER/TELCO SITE PLAN
SCALE 1" = 50'



NORTH

Mobile

DKIE BRIDGES CAMPUS
7663 WARREN ROAD
FIRECE, TX 76510

PRODUCT NO: DA14391
DRAWN BY: CG
CHECKED BY: JC

REVISIONS
3/17/16 RELEASER FINAL CO
4/19/16 RELEASER FINAL CO
5/2/16 RELEASER FINAL CO
5/2/16 RELEASER FINAL CO
1/9/16 FINAL CO
0/3/16 PRELIM CO

ALL PRO
GOSTYNA GROUP INC.

6/7/16
DRAFTS
ALL PRO

PRODUCT NUMBER:
SCSP10-0012

4th ARMY MEMORIAL
DA14391
SW CORNER OF 3499
BLOCK THREE TOWER 2 GORN BLOCK
ON AN IRK KONE DANE

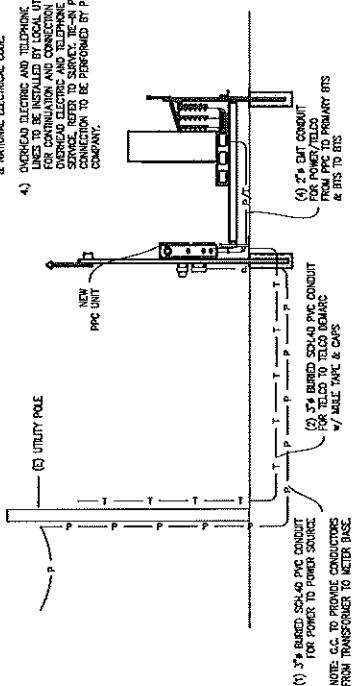
SHEET TITLE:
POWER/TELCO RISER
DIAGRAM & CABINET
DETAIL

SHEET NUMBER:
E-2

POWER/TELCO EQUIPMENT LAYOUT
SCALE 1/2"-1"

NOTES:

- 1) FOR WATER BOARD USE 16 POINT GUYED
SPRAL NAILS, THREE (3) PER BOARD / POST.
- 2) ALL CONDUIT LENGTH SHALL BE FIELD
VERIFIED.
- 3) INSTALL IN ACCORDANCE W/ CURRENT LOCAL
& NATIONAL ELECTRICAL CODE.
- 4) OUTDOOR ELECTRIC AND TELEPHONE
LINES TO BE INSTALLED BY LOCAL JURIS.
FOR COMBINATION AND CONNECTION OF
OUTDOOR ELECTRIC AND TELEPHONE
SERVICE, REFER TO SERVICE TECHNIQUE
CONNECTION TO BE PERFORMED BY POWER
COMPANY.



1
POWER/TELCO RISER DIAGRAM

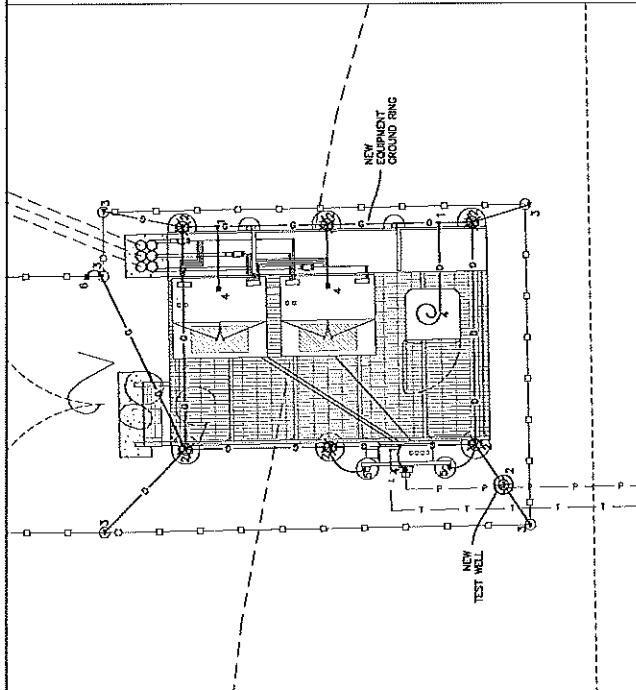
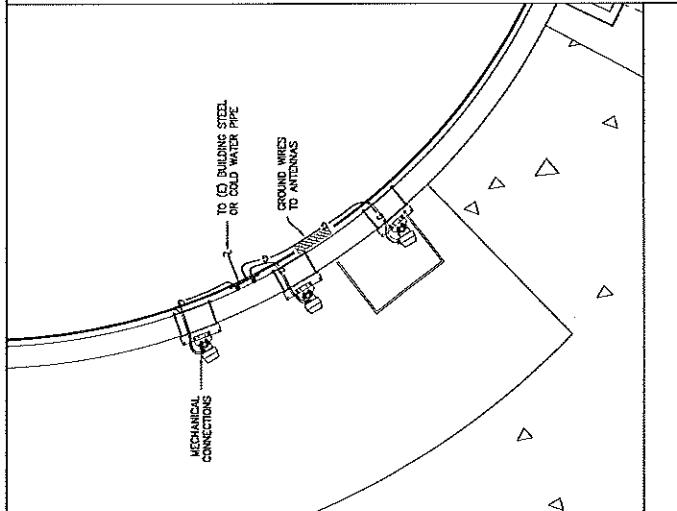
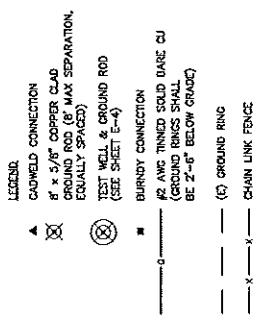
2

DPFPC WIRELESS PARKWAY
2683 WARREN CAMPUS
RSRSD 98745850

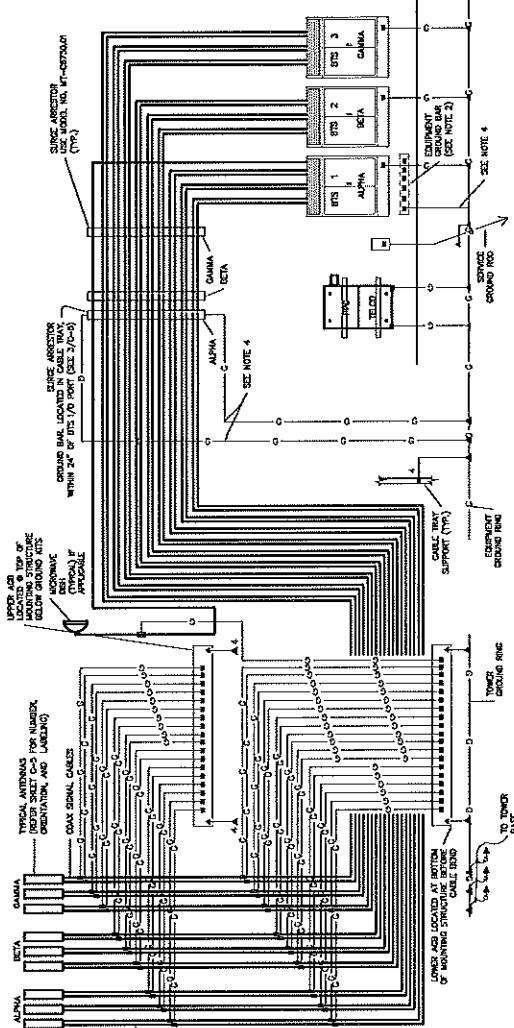
T E M O b i l e

No.	Description	Part No.
1	1 1/2" SOLID TO 1 1/2" SOLID 2-HOLE COMPRESSION LUG	WOG NO. 05
2	2 1/2" SOLID TO GROUND PIPE	05-07810
3	3 1/2" SOLID TO TOWER POST	05-07812

- BURNDY CONNECTIONS (DETAIL 2 SHEET EA)
- CHECK WITH PROJECT MANAGER FOR CONNECTION TYPE IF TABS ARE NOT PRESENT ON MONPOLE OR TOWER



GROUNDING PLAN
SOLID MTS



NEW SATELLITE (MTS)

COLD CONNECTION

GROUNDED

CHAIN LINK FENCE

SECTIONAL GROUND WIRE SUPPORT

GROUNDING DIAGRAM
SOLID MTS

ALL PRO
CO-1435

ST 1/10

DA 14351

4TH ARMY MEMORIAL
DA 14351

SPECIFIED BY:

REVIEWED BY:

APPROVED BY:

DATE:

2024-01-15

PROJECT NO.:

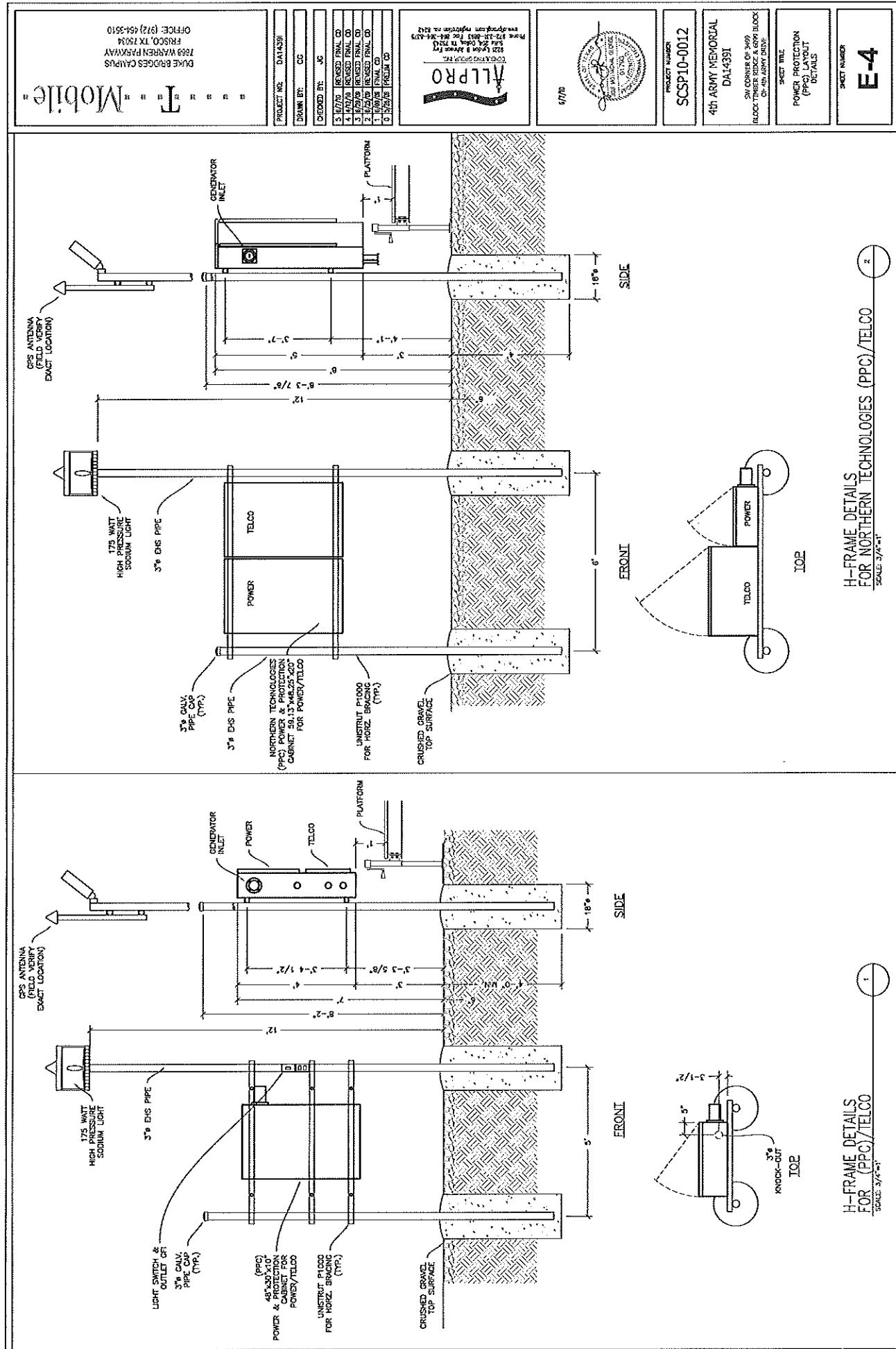
SCSP10-0012

DOCUMENT NUMBER:

E-3

NOTES:
1) AT THIS STAGE
CONTRACTOR SHALL BE
RESPONSIBLE FOR ALL
WORK TO MAKE
THIS SITE USEABLE
FOR MONITORING
AND TELEPHONE
SYSTEMS.
2) GROUND RODS MAY
ONLY BE USED IF
SO ADVISED BY
CONTRACTOR.
3) CONSTRUCTION
MATERIALS FOR GROUND
WIRE AND POWER
WIRING WILL BE
SUPPLIED BY OWNER
AND CONTRACTOR.
4) CONTRACTOR IS
NOT RESPONSIBLE
FOR GROUND ROD
LOCATION.
5) CONTRACTOR IS
NOT RESPONSIBLE
FOR GROUND ROD
LOCATION.
6) CONTRACTOR IS
NOT RESPONSIBLE
FOR GROUND ROD
LOCATION.
7) CONTRACTOR IS
NOT RESPONSIBLE
FOR GROUND ROD
LOCATION.

E-3



<p style="text-align: center;">MOTILE</p> <p>788 WARDEN AVENUE DUE BRIDGE CAMPUZ PRSOO TX 78550 DEPTE (97) 664-5510</p>		<p>PRODUCT NO: DA1439</p> <p>DRAWN BY: CC</p> <p>CHECKED BY: JP</p> <p>5/07/00 REvised Final CO</p> <p>4/17/00 Revised Final CO</p> <p>3/26/00 Revised Final CO</p> <p>2/26/00 Final CO</p> <p>1/20/00 Final CO</p> <p>6/26/00 Prelim CO</p>	<p>ALL PRO</p> <p>1/17/00</p> <p>1/17/00</p>	<p>PROJECT NUMBER: SCSP10-0012</p> <p>4th ARMY MEMORIAL BLOCK-TYPE & T-SLOT GATE, ARMY DRIVE</p> <p>SECRET TITLE</p> <p>DETAILS</p> <p>SHEET NUMBER: E-6</p>
<p>GROUND AND BUSS BARS</p> <p>SCALE: N.T.S.</p>		<p>TEST WELL DETAIL</p> <p>SCALE: N.T.S.</p>		<p>NOT USED</p> <p>SCALE: N.T.S.</p>
<p>UNDERGROUND CONDUIT STUB UP</p> <p>SCALE: N.T.S.</p>		<p>SURGE ARRESTOR GROUNDBAR</p> <p>SCALE: N.T.S.</p>		<p>NOT USED</p> <p>SCALE: N.T.S.</p>
<p>ELECTRICAL/ TELCO TRENCH</p> <p>SCALE: N.T.S.</p>		<p>GATE GROUND DETAIL</p> <p>SCALE: N.T.S.</p>		<p>NOT USED</p> <p>SCALE: N.T.S.</p>
<p>TYPICAL COAXIAL GROUNDING</p> <p>SCALE: N.T.S.</p>				<p>NOT USED</p> <p>SCALE: N.T.S.</p>

<p align="center">Mobile</p> <p align="right">DUKE BRIDGE CAMPUS 7665 WALTERS ROAD ROSSO, TX 75094 OFFICE: (972) 461-5510</p>		<p align="center">ALLPRO</p> <p align="right">PRODUCT NO: DA14391 REVISED BY: CC CHECKED BY: JC 5-7-78 REVISED FINAL CO 4-7-78 REVISED FINAL CO 3-7-78 REVISED FINAL CO 2-7-78 REVISED FINAL CO 1-7-78 REVISED FINAL CO 6-29-78 PACIFIC CO</p>	<p align="center">07/78</p> <p align="right">PROJECT NUMBER: SCSP10-0012 4TH ARMY MEMORIAL DA14391 SUPPORT FOR 5000 BLOCK Other Army Det SHEET TITLE PLATFORM DETAILS SHEET NUMBER: S-1</p>
<p>NOT USED SCALE: 3/4"-1"</p>			
<p>FOUNDATION AND PLATFORM DESIGN STRUCTURAL ANALYSIS IS TO BE PROVIDED BY OTHERS</p>			
<p>NOTES: PLATFORM DESIGNED TO SET ON GROUND OR ON CONCRETE SLAB/PER. SLOPE: (6) 5,000 LBS. LIFTING JACKS WITH 15" DIAMETER BASE PLATE ON BOTTOM OF JACK WITH 1" HOLE TO STAKE PLATE FOR DRA. PLATFORM DESIGNED TO SUPPORT MAXIMUM OF 10,000 LBS. DISTRIBUTED OVER PLATFORM AREA. MAXIMUM WEIGHT PER CABINET SHALL NOT EXCEED 4,000 LBS.</p> <p>NOTICE: 10'-0" TRANCHING BELOW PLATE FOOTING SEE NOTE 10.</p>			
<p align="center">PLATFORM ELEVATION SCALE: 3/4"-1"</p>			

<p style="text-align: center;">Mobile</p> <p style="text-align: right;">DUEKE BRIDGES CAMPUS PRESQUE ISLE, MI 49775 OFFICE: (989) 431-3510</p>	
<p style="text-align: center;">ALL PRO</p> <p style="text-align: right;">DATE: 06/10/2010 DRAWING NO.: D41-0012 SHEET NUMBER: S-2 SCALE: 1/4"</p>	
<p>GENERAL NOTES FOR INSTALLATION OF CABLE BRIDGE</p> <ol style="list-style-type: none"> MATERIALS USED WILL BE ONLY HOT DIPPED GALVANIZED. ALL FIELD CUT SURFACES HAVE TO BE PAINTED WITH COAT GALVANIZED PAINT. ALL CONCRETE SURFACES, AS WELL AS THE EXPOSED CONCRETE AREAS, HAVE TO BE SPRIED BY THE CONTRACTOR. BUSS THREADS ARE TO BE IN 1/4" SIGHTHOLE SO THE ISOLATED BUS LINES CAN BE IN 1/4" SIGHTHOLE. TO BE CUT OFF AT A 1" MAXIMUM LENGTH ABOVE THE GROUT LINE. STABILIZER ANGLES ARE TO BE INSTALLED TO SHED SCREWS AND A LEAD AP ANCHOR PROVIDED BY THE CONTRACTOR. STABILIZER ANGLES ATTACH TO THE CONCRETE PAD BY 2X2 ANGLE CLIPS ANCHORED WITH 1/8" DIA BOLTS AND ANKLE SHIELDS. BUS BAR GROUT LOADS ARE TO BE IN 1/4" SIGHTHOLE. THE ISOLATED BUS LINES CAN BE IN 1/4" SIGHTHOLE. REACHES THE CONCRETE ASSEMBLY AGAIN TO THE HORIZONTAL. RUN THE GROUT LOADS OFF THE END OF THE PAD IN THE SAME DIRECTION ATTACHING EVERY 4' TO ANCHORED UN-SHEET TO A GROUT CONCRETE CONTINUOUS VERTICAL TO GROUT CONNECTION. ALL THE CONCRETE IS TO BE SPRIED BY THE CONTRACTOR. WALL HAVING TO INSTALL ADDITIONAL BRONZE MESH OVER THE MATERIALS OF THE CONCRETE PIECE. IF THE CABLE BRIDGE IS TO BE MOUNTED TOA FLATIRON, THEN THE APPROPRIATE SQUARE WASHERS, DIN-SURFACE AND STAINLESS STEEL NUTS LONG TO THE PTS. NO. 10-32X1/2" STUDS, NO. 10-32X1/2" NUTS, CONCRETE ASSEMBLY MANUFACTURERS DIRECTIONS. THE 1/2" STUDS-12LS LINES LONG TO THE PTS. NO. 10-32X1/2" STUDS, NO. 10-32X1/2" NUTS, CONCRETE ASSEMBLY MANUFACTURERS DIRECTIONS. 	
<p>LEFT HAND LAYOUT TYPICAL CABLE BRIDGE INSTALLATION</p>	
<p>STRUCTURAL NOTES</p> <p>CODES & STANDARDS</p> <ol style="list-style-type: none"> 2003 UNIFORM BUILDING CODE STRUCTURAL CONCRETE: ACI 318-05 CODE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION: ACI 302-18-B1 GENERAL <p>1. CONTRACTOR SHALL VERIFY DUSTING CONDITIONS AND DIMENSIONS PRIOR TO BEGINNING WORK, AND NOTIFY THE OWNER OF ANY CONDITIONS DIFFERENT THAN THOSE SHOWN IN THE CONTRACT DOCUMENTS.</p> <p>2. CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION AND CONDITION OF DUSTING AND FOR THE PROPER FIT-UP OF THE TOWER AND EQUIPMENT BUILDING FOUNDATIONS.</p> <p>3. CONTRACTOR SHALL FOLLOW THE CONSTRUCTION GUIDELINES PROVIDED IN THE GEOTEXTILE REPORT.</p> <p>STRUCTURAL FILL</p> <ol style="list-style-type: none"> SELECT STRUCTURAL FILL SHALL BE PLACED IN AREAS WHERE REQUIRED TO CAUSE BY SITE PREPARATION AND IN AREAS WHERE REQUIRED TO BRING GRADE TO PROPER ELEVATION. PRIOR TO PLACING REQUIRED FILL MATERIAL, REMOVE FROM THE SITE ALL CONCRETE BLOCKS, AND REINFORCING AS WELL AS EXCESSIVELY ORGANIC MATERIAL, AND THE EXISTING SURFACE. THIS MATERIAL SHOULD BE STRIPPED TO A MINIMUM DEPTH OF 6 INCHES AND REMOVED FROM THE SITE. ALL EXPOSED SURFACES SHALL THEN BE INSPECTED BY PROBING, TESTING, AND PROOF-ROLLING AS SPECIFIED IN THE GEOTEXTILE EXPLOSION TEST REPORT. RECOMMENDED DUSTING SHOULD BE DESCRIBED BY THE PROJECT GEOTEXTILE PROVIDER. THE DUSTED SUBGRADE SHOULD NOT BE ALLOWED TO DRY OUT PRIOR TO PLACING STRUCTURAL FILL. STRUCTURAL FILL MATERIAL SHALL HAVE A PLASTICITY INDEX BETWEEN 15 AND 45, AND A LIQUID LIMIT LESS THAN 40. CONSOLIDATION OF MATERIAL SHALL BE AS FOLLOWS: 	
<p>CONCRETE REINFORCING</p> <ol style="list-style-type: none"> REINFORCING STEEL SHALL BE DETERMINED NEW BULLET STEEL BARS IN ACCORDANCE WITH ACI-318, SPECIFICATION AGI GRADE 60. DETAILING OF REINFORCING STEEL SHALL CONFORM TO THE AMERICAN CONCRETE INSTITUTE DETAILING MANUAL. ALL HOOKS AND BENDS IN REINFORCING BARS SHALL CONFORM TO AGI DETAILING STANDARDS UNLESS SHOWN OTHERWISE. IN BEAMS, SLABS, COLUMNS AND WALLS DETAIL REINFORCING AS FOLLOWS: <ol style="list-style-type: none"> LAP TOP REINFORCING BARS AT MID SPAN. LAP BOTTOM REINFORCING BARS AT THE SUPPORTS. LAP REINFORCING BARS 30 BAR DIAMETERS MINIMUM, UNLESS NOTED OTHERWISE. STRANDS SPlicing OF HORIZONTAL REINFORCING 48". REMOVE CORNER BARS FOR ALL HORIZONTAL BARS AT THE INSIDE AND OUTSIDE FACES AND TOP AND BOTTOM OF INTERSECTING BEAMS OR WALLS. CORNER BARS ARE NOT REQUIRED IF HORIZONTAL BARS ARE HOODED. THE MECHANISMS OF REINFORCING STEEL WILL NOT BE PERMITTED. HEAT SHALL NOT BE USED IN THE FABRICATION OR INSTALLATION OF REINFORCEMENT. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT UNLESS NOTED OTHERWISE ON THE DRAWINGS: <ol style="list-style-type: none"> CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3" CONCRETE EXPOSED TO EARTH OR WEATHER 1) 16" THROUGH #18 2.0" 2) 16" AND SMALLER ALL REINFORCEMENT ACCESSORIES SHALL BE STAINLESS STEEL, GALVANIZED, OR PLASTIC TIPPED. 	
<p>4. CONTRACTOR SHALL BE RESPONSIBLE FOR THE ADVICEABILITY OF THE USE AND STORAGE AND FOR SITE PREPARATION IN THEIR USE AND REMOVAL.</p> <p>5. PLACING OF CONCRETE IN PIERS SHALL BE THROUGH "ELEPHANT TRUNK" TUBULAR CHUTS, LOCATED SUCH THAT THE FREE AIR DROP FLOW IS NOT EXCEEDED 6 FEET. ALL CONCRETE DOORS NOT EXCEEDED 6 FEET IN LENGTH, AND APPROVED BY THE ENGINEER, SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER.</p> <p>6. CAST IN PLACE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A DESIGN STRENGTH OF 3,000 PSI AT 28 DAYS, AND A SLUMP BETWEEN 3" AND 5".</p>	
<p>5. PRODUCT INFORMATION</p> <p>SCSPL0-0012</p> <p>4TH ARMY MEMORIAL</p> <p>DAL4391</p> <p>SHEET NUMBER</p> <p>NOTES</p>	

Mobile

DOE BRIDGES CAMPUS
7666 WARRIOR PARKWAY
FORT COLLINS, CO 80504
DRCFC: (970) 494-3510

PROJECT NO: DAYSON
DRAWN BY: CG
CHECKED BY: JC

5/6/75 REVISED FINAL
4/2/76 REVISED FINAL
3/2/76 REVISED FINAL
2/2/76 REVISED FINAL
1/1/76 FINAL CO
2/2/76 PROL CO

ALLPRO
ALLPRO INC.
1000 N. 10TH ST.
PHOENIX, AZ 85004
602-261-1222
FAX: 602-261-1223
TELE: 602-261-1222
TELEX: 222-261-1222

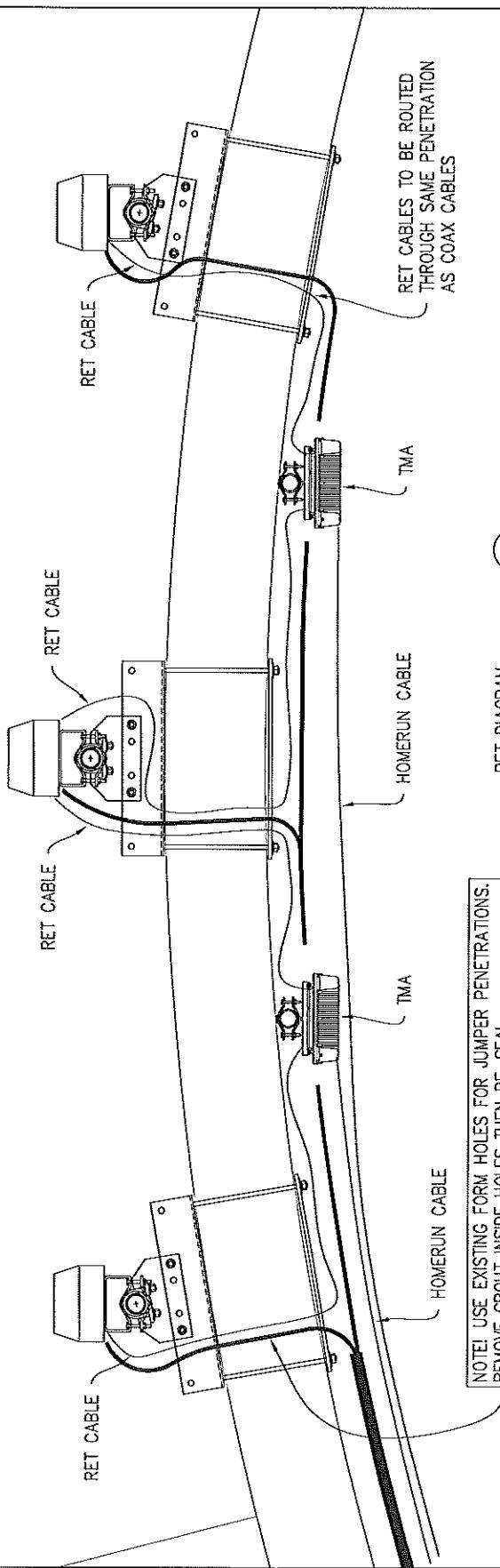
PRODUCT NUMBER:
SCSP10-0012
DATE: 6/7/76

4th ARMY MEMORIAL
DA14391
5th COMINT OP-1990
BLOCK TOWER KINGS & SONS BLOCK
CITY AND STATE

Sheet 1 of 1

RET DIAGRAM

SHEET NUMBER
S-3



RET DIAGRAM
SCALE: 1/2"=1'

NOTE: USE EXISTING FORM HOLES FOR JUMPER PENETRATIONS.
REMOVE GROUT INSIDE HOLES THEN RE-SEAL
WITH APPROVED SEALANT (TYP. ALL SECTORS)

COAXIAL EQUIPMENT ENTRY
TO BE INSTALLED BY GENERAL CONTRACTOR
PROCEDURE FOR SWEEP TESTING
TO BE ATTACHED AND PROVIDED BY T-MOBILE
PROJECT MANAGER. CHECK WITH PROJECT MANAGER
FOR ADDITIONAL INFORMATION ON RF SWEEP
PROCEDURE.

XRAY FOR REBAR PRIOR TO ANY DRILLING